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ABSTRACT

This volume contains 11 papers focused on the problem of creating educational policies to equalize educational opportunities. Six papers in the first section analyze the social disparities in educational participation, the sociological factors in educational demand, the clientele of comprehensive secondary schools, and the trends in higher education enrollments. Section two contains five papers designed to establish educational policies that would equalize educational opportunity. This section includes the implications of regional inequality in France and Sweden, and the English social selection processes, as well as a discussion of educational policies for culturally disadvantaged students. (RA)

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STUDY GROUP IN THE ECONOMICS
OF EDUCATION

AND
EDUCATIONAL INVESTMENT AND PLANNING PROGRAMME
(EIP)

SOCIAL OBJECTIVES IN EDUCATIONAL PLANNING

Paris 1967

EA 003 880

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1/2/3

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PREFACE

by

Henning FRIIS

Director, Danish National Institute of Social Research

These papers brought together under the title "Social Objectives in Educational Planning" become the final volume of a series arising from meetings of the OECD's Study Group on the Economics of Education. The Study Group was formed in 1962, under the sponsorship of the OECD, as an effort to organise and stimulate exchange among scholars interested in the basic problems of education and economic development. A review of the Study Group's meetings and the publications arising from them shows how its deliberations covered global economic problems in educational development and moved on to consider many of the problems substantive to actual development planning for education — institutional, organisational, financial and social.

Thus beginning with the June 1962 meeting, the Study Group considered in succession : *The Economic Aspects of Higher Education, The Residual Factor and Economic Growth* (May 1963 meeting), *The Organisational Implications and the Link between Education and the Economic Growth* (November 1963 meeting), and *The Financing of Education for Economic Growth* (September 1964 meeting). At its final meeting, March 8th - 9th 1965, the Study Group discussed Social Objectives in Educational Planning. While the Study Group discussions and papers represent a free expression of leading scholars in the field, their development in a general way has been parallel to the growth of OECD's educational development programmes, particularly the Mediterranean Regional Project and the Educational Investment and Planning Programme, and a mutual exchange developed between these programmes and the Study Group. These programmes have also moved rapidly, as the majority of OECD Member countries have established or strengthened planning bodies for education, toward dealing with the hard problems of development planning for education. In the case of the present volume the close relationship of the study group to the programme activities of OECD is illustrated by the inclusion of papers developed in the EIP programme submitted to the Study Group. Thus the fact may be noted that within the context of the EIP Programme the various facets of the topic of this book are under continued investigation and directions of work indicated in these papers are congruent to the general programme of the OECD in this field.

The focus of the papers in this book reaches back to the first OECD publication in the field of educational development problems, *Ability and Educational Opportunity* (December 1961), which comprised papers of the

OECD's Kungälv Conference held in June 1961. The main burden of the Kungälv papers was that scientific evidence revealed that in the developed countries of the OECD, educational opportunity had not yet followed recognised ability in the population. Instead educational systems in these countries continued to leave large reserves of ability in the population educationally under-developed. Furthermore it was noted that the 20th century opinion in most countries had converged toward a consensus in accepting the principle of formal equality of educational opportunity. This moral conception of education in the 20th century, furthermore, is matched by a new understanding of the nature of ability which leads to abandonment of the idea of a fixed " pool of ability " in the population. It is increasingly recognised that economic and social development, which includes educational input, actually constitutes a process of creating ability among the population. The limits of this ability reserve, if such limits exist, have for practical purposes not yet been reached in any country.

The Kungälv Conference opened up two general challenges for the sociology of education : " There is the challenge of applying general knowledge concerning obstacles to the release of human ability through educational opportunity. Every country can see education as a means towards a richer and more just life for its members but every country has its own special history of education and its own constellation of social forces making up a unique set of conditions in terms of which, social and educational policy has to be formulated. " Secondly there is a challenge to develop a workable theory of the relationship between education and social structure. " The notions of technological society and the centrality of the educational process need to be worked out not only in relation to such economic considerations as the return to investment, but also in terms of the social determinants of educability, the sociology of the school, the professionalisation of new sectors of the labour force and the problems of cohesion and consensus in a differentiated society. "[1]

The Study Group did not deliberately set out to follow the Kungälv Conference four years later or to answer these questions. Rather the Study Group had conceived its task to be to examine the social elements underlying the need for educational development in contra-distinction to the economic elements which had been explored earlier in its deliberations. However, as the discussion of this idea went forward among the Study Group Members and in exchange with country planning groups in the OECD's educational development programmes, the focus of attention shifted in the direction of concern originally laid out in the Kungälv Conference. This was not a surprising development since the OECD's programme has been a response to the general demand for increase in education in OECD countries. This demand arises from both economic and social development needs, which in practice call for an expansion of education of such proportions as to reinforce in practice the idea of a democratisation in educational participation.

This objective of democratisation of educational participation has become the major social objective underlying educational development programmes, and therefore the time has come to examine the questions : first what is the performance of the school system in relation to this objective ; secondly what are the specific effects of policies and measures in education with respect to this objective ; third, what research and investigation is required to develop more effective educational measures towards this objective ; and finally, what are the development planning requirements for this objective.

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[1] **Ability and Educational Opportunity.**

These questions reflect the challenges and the deep changes which are now invited in the traditional model of the educational system. The model of the educational systems as an orderly march of students through its various parts, controlled by examination barriers from point to point, is challenged by the demand for a system based upon a strategy for generating ability among students and for discovering unused intellectual resources in the population which is needed for the advance of the economy and the society. The view of education as primarily an action of the teacher isolated with a group of students in the classroom is asked to yield to the reality that the learning process and the teacher's role in it is part of a total social process. Thus the context of current thinking in educational reform calls for a strategy based on social and institutional realities and the resources of the community. Thus the recognition of the social objectives underlying educational development also give rise to attention to the social dynamics in the operation of educational systems allowing for a strategy which includes all the resources of the community. These are major areas of challenge for policy in educational development toward which comprehensive educational development planning must be directed.

NOTE OF APPRECIATION

The Study Group was fortunate in obtaining during the three years of its existence the assistance of many notable scholars and statesmen in the fields relevant to educational development. Since this is the last of this series of papers it seems appropriate to note that a tribute to these people is best expressed in the high quality of their contributions to the books in the Study Group series. Also it is only fitting that as Chairman I indicate my great satisfaction to be associated with the members of the Study Group, whose efforts always constituted hard work coupled with the special insight and accomplishment they have brought to their task. The co-operation and support of the OECD Secretariat constituted no small part to the success of this activity. Finally it is not possible to forget that this activity, while supported by the OECD as a resource for its programme activities, also constituted a professional experience for which the Study Group members were uniformly grateful.

Henning Friis.

MEMBERS OF THE STUDY GROUP IN THE ECONOMICS OF EDUCATION, MARCH 1965

Henning Friis	Chairman of the Study Group; Director of the Danish National Institute of Social Research; Chairman of the Committee for Scientific and Technical Personnel (of both the OEEC and the OECD) from 1958 to 1965, and Chairman of the OECD's Educational Investment and Planning Programme (EIP), 1962-1965.
Michel Debeauvais	Deputy Director of the Institut d'Etude du Développement Economique et Social (IEDES), Paris, before his recent appointment to OECD as the Responsible of the Ford Foundation Programme in Latin America.
Friedrich Edding	Professor, Max Planck Institute for Educational Research, Berlin.
Seymour Harris	Chairman of the Department of Economics, University of California, San Diego, and Editor of the first book in the Study Group series, *The Economic Aspects of Higher Education*.
Selma Mushkin	Economic consultant to the US Council of State Governments and Secretary of the Study Group, 1963-1964.
Raymond Poignant	Senior staff member of the International Institute for Educational Planning (IIEP) in Paris, and formerly Rapporteur Général de la Commission de l'Equipement Scolaire, Universitaire et Sportif.
Ingvar Svennilson	Professor of the Institute for Social Sciences, University of Stockholm.
Jan Tinbergen	Director of the Netherlands Economic Institute, Rotterdam.
John Vaizey	Fellow, Worcester College, Oxford, England.

SUMMARY REVIEW BY THE RAPPORTEUR

Leila SUSSMANN
Tufts University

The Conference on " Social Objectives in Educational Planning " met for two days of discussion with papers of this volume as their common background. The talks centered on implementing " equality of educational opportunity ", a phrase with many definitions. Anderson's paper presents a useful review of its pragmatic meanings. As the phrase was used in the meetings, it referred to one of the following situations :

i) equal access to non-compulsory education for all youngsters of equivalent measured ability — regardless of sex, race, place of residence, social class or other irrelevant criteria ;

ii) equal rates of participation in non-compulsory education by members of all social classes. This is a more stringent definition of equality than (*i*) since it leaves out of account the unequal social class distribution of academic ability ;

iii) equal opportunity to *acquire* academic ability for youngsters of all social classes. This is the most radical definition of the three. It will be more fully spelled out below.

EQUAL OPPORTUNITY AND THE EXPANSION OF EDUCATION

There was debate among the conferees as to whether the expansion of access to education *per se* tends to bring about equalisation in the participation rates of the different social strata. When the proportion of all youth gaining secondary or higher education grows, does the participation of the higher and lower social strata level out ? Some conferees thought not. Anderson's earlier research on this topic, a cross-national comparison of higher education, showed only a very loose association between the proportion of the age group in attendance and the size of social class differentials in participation[1]. Anderson told the conference that while secondary education in the US increased from 5 per cent to 40 per cent of the age group between the mid-19th century and the 1930's, the social composition of the students did not change. Of course when enrolment begins to move toward 100 per cent, it is self-evident that class differentials decline. In fact, when the enrolment from the upper social strata approaches 100 per cent, further expansion can only come from below and must result in some levelling-up of social class attendance rates. Participation in the senior year of high school in the US in 1955 was quite equalised as between the social classes — but in this " self-evidential " way. Overall attendance was 60 per cent of youth in the age group and the top social strata had virtually 100 per cent attendance. With participation so nearly universal, social class differences were predictably small (see Ramsøy's paper).

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[1] C. Arnold Anderson, " Access to Higher Education and Economic Development ", in Halsey, Floud and Anderson, editors, *Education, Economy and Society*, Free Press, 1961, 252-265.

Other conferees, especially Husén, looked at expansion of school enrolments in a different way. Raising the number of years of compulsory education exposes working-class youngsters to school longer, making them less likely to terminate their education with the compulsory age. A higher proportion of youth from the disadvantaged classes have an opportunity to overcome the poor start which their homes may have given them. More of them become motivated as well as qualified for selective education. Husén said that nations which had a majority of their 17 and 18 year olds in full-time education also had much lower social class differences in participation in higher education than nations which did not. His paper emphasizes the socially biased wastage and loss of talent from selective secondary schools.

The paper by Little and Westergaard examines the relation of expansion to equalisation in English selective schools. A doubling of selective secondary education from 12 per cent to 23 per cent of the age group since the early part of the century has resulted in only " a small reduction " in social class differentials. It is true that the lower strata have benefited proportionately more from the expansion than the upper, however. At the university level social class differentials seem not to have changed at all ; there the upper white collar classes have benefited from expansion no more than the lower white collar and skilled manual classes, while the semi- and unskilled manual classes have expanded their participation at a lower rate.

This analysis, it will be noted, is based on definition (*ii*) above ; it takes no account of the social distribution of measured ability. However, Little and Westergaard quote data which show that selective secondary and higher education in England are unequally available to middle and working class children of the same measured ability. The class differentials are reduced but not eliminated when ability is held constant. Ironically, it appears that admission to grammar schools conformed to the " equal access for equal ability " criterion in England just after the war, when the " eleven plus " was more uniformly in use than now. The substitution of teachers' judgments, marks, and conventional examinations — which favour middle-class over working-class children more than do ability tests — seems to have resulted in some backsliding toward inequality.

The Netherlands' experience, as recounted in Ruiter's paper, is somewhat analogous to England's. Between 1940 and 1957, grammar school attendance grew from 8.6 per cent to 16.4 per cent of the age group for boys, and from 4.5 per cent to 12.9 per cent for girls. The middle social stratum benefited most, the bottom stratum next, and the top stratum least from the expansion. However, these differences were small and the social composition of first entrants to grammar school was left unchanged. Since 1957 grammar school attendance has stagnated. The professional and managerial classes had by that year reached their probable ceiling of participation — 85 per cent of their youth were in grammar school — and " ... there still remains the question of why groups not yet reaching top level participation have shown no further increase." There is no restriction on the number of places available. The Netherlands' policy is to meet the demand for those who can pass the examination. But the lower-middle and working classes have thus far been content to send their children to the technical, vocational and secondary modern schools which do not lead to university training. Ruiter calculates that if these social strata were to demand grammar school places — at each ability level — at the same rate as the top stratum now does, more than 100 per cent additional places would be needed.

Ruin's paper on Sweden and Laderrière's on France present tables showing the present social composition of students pursuing higher education. These data invite comparison with Anderson's parallel earlier data for the same countries[1]. Despite considerable expansion of enrolments in both nations since Anderson published his findings, there is no evidence of a decline in differential participation between the manual and non-manual classes. The relative participation of the agricultural classes in Sweden has gone up significantly, however, as a result of the effort to make university-preparatory schools more accessible to rural areas. Concerning this policy Husén told the conference, "From 1910 to 1943 less than 2 per cent of children from rural areas graduated from gymnasium but this is now 16 to 17 per cent. One factor is the location of schools preparing youngsters for the university from new areas. From 1910 to the early 1940's we had the

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[1] In order to make the comparison, I have used Laderrière's and Ruin's data to calculate parity ratios of the kind Anderson presented. A parity ratio is the proportional representation of an occupational class among the students (as measured by their fathers' occupations) divided by its proportional representation in the population. The appropriate population for the denominator is the age cohort to which the students belong. However, since the occupational composition of such age cohorts is rarely available, the occupational composition of the total male labour force is generally used as an approximation. The total male labour force is the denominator of Anderson's parity ratios and the basis of Laderrière's comparison in his Table III. Ruin's Table 4 uses the Swedish male voters as the denominator, since the Swedish census does not break down the labour force by the needed occupation categories.

PARITY RATIOS IN HIGHER EDUCATION

	SWEDEN			FRANCE	
	1930[1]	1945[1]	1960-61[2]	1948[1]	1961-62[3]
Agriculture :					
Operators	—	—	—	0.25	0.36
All	0.29	0.32	0.61	0.24	0.31
Labour :					
Non-Agricultural	0.30	0.24	0.27	0.05	0.17
All	—	—	—	0.07	0.17
Agriculture and Labour	0.29	0.12	0.34	0.12	0.22
All Non-Labour, Non-Agricultural	2.8	2.5	2.1	2.5	2.3
Professionals	25.6	10.9	7.7	4.6	7.1
Private Entrepreneurs	2.1	2.7	—	2.8	1.7
Overall attendance vate	1.8 %	3.6 %	about 5.5 %	3.6 %	7.3 %

1. **Anderson** ***op. cit.***
2. **Ruin.**
3. **Laderrière.**

same location of pre-university schools as we had before 1900, but they have been much more fairly distributed after 1950 than they were before. " Similar reforms have been instituted in France, but too recently for any effects on higher education yet to have appeared (Laderrière).

We can also compare two recent studies of the social composition of American college and university students with Anderson's 1947 data. Anderson's materials cover white enrollees. Project Talent reported the social composition of a national sample of first entrants to higher education in 1960-61. And James Davis' book, *Great Aspirations,* reported the social composition of a national sample of college seniors in June of the same year[1]. Since the three groups are different, the comparison is very rough. The evidence nonetheless is clear that expansion of higher education in the US since 1947 *has* been associated with some equalisation of participation as between the manual and non-manual classes. However, this equalisation has set in at a point when the participation of the top occupational strata is approaching 100 per cent. Project Talent data show that among high school seniors in 1960, 78 per cent of the white collar sons and 66 per cent of the daughters entered college within a year after their graduation. The percentages for the professional and technical classes were still higher : 83 and 78. Thus the American case is no exception to the rule that substantial room in selective schools is made for the manual strata only after the demand of the non-manual groups has been satisfied. What distinguishes the US case from the situation in some European countries, for instance The Netherlands, is that there is no stagnation of working-class demand for places in selective

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[1] Project Talent, *The American High School Student,* University of Pittsburgh, 1964, Tables 11-10, pages 11-22.

James Davis, *Great Aspirations,* National Opinion Research Center, University of Chicago, Table 2.2, page 13.

The denominators of the parity ratios in the following table are based on the composition of the labour force as reported in the US census.

PARITY RATIOS IN US HIGHER EDUCATION[1]

	1947[2] WHITE ENROLLEES	1960-61[3] ENTRANTS	1961[4] SENIORS
Agriculture :			
Operators	—	0.91	—
All	0.62	1.0	1.1
Non-agricultural labour	0.56	0.63	0.59
Agriculture and Labour	0.57	—	—
All non-labour, non agriculture	1.8	—	1.5
Professionals	3.4	1.6	1.9
Private Entrepreneurs	3.0	—	—
Managers, officials and proprietors	—	1.8	1.6
Overall Attendance Rates	20.9 %	about 36.1 %[5]	about 12 % to 15 %[6]

[1] The denominators of the parity raties are derived from the occupational composition of the male labour force as reported in the nearest US census.

[2] Anderson, *op. cit.*

[3] Calculated from data of Tables 11-10, pages 11-22 of Project Talent, *The American High School Student*, by John Flanagan et al., University of Pittsburgh, 1964. Includes entrants to two-year college curricula.

[4] Calculated from the data of Table 1.2 b, page 6 of James Davis, *Great Aspirations*, Aldine Publishing Company, Chicago, 1964. Includes seniors in four-year curricula only.

[5] Rose Knight estimates first entrants to all US higher education in 1960-61 as 36.1 % of the age group and to four-year curricula as 20.6 %. See her paper below.

[6] It is estimated that 60 % to 75 % of entrants to four-year college curricula reach graduation in the US.

schools. Aspirations to higher education have diffused very rapidly through American society.

Finally, I have collected data on the social composition of freshmen at the University of Puerto Rico in 1944, 1952 and 1960[1]. First entrants to higher education in this postwar period grew from 2.7 per cent to 8.6 per cent of the age group. The University of Puerto Rico accounted for about 80 per cent of higher education. My detailed occupational breakdowns show no equalisation of attendance rates as between manual and non-manual classes, but they do show a substantial decline in differentials as between professionals and small business men on the one hand, and agricultural operators and higher and lower white collar employees on the other[2]. The equalisation, in other words, was confined within the middle class. In effect the new middle class (and the agricultural operators) was catching up with the old.

There is reason to suspect that equalisation *within* the non-manual classes of the kind which has occurred in Puerto Rico is also taking place in Europe. Anderson's paper showed that over-representation of professionals' offspring in higher education was negatively related to the size of the national attendance rate, but over-representation of the non-manual classes as a whole was about the same at all attendance levels. This means that some other occupational categories within the non-manual group increased their relative representation as enrolments grew. A decline in professional over-representation is also visible in the Swedish postwar data, though not the French. It is plausible to suppose that when the near-monopoly of the upper middle classes is broken, it is the lower middle classes who first grasp a disproportionate share of the new places available. After their demand is met, the attendance rate of the manual strata may begin to " level up ".

The above material documents the generalisation that social class differentials do not necessarily decline as selective schools expand their

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1. My research on higher education in Puerto Rico was supported partly by the US Office of Education, Cooperative Research Project No. 1018, and partly by the Social Science Research Center of the University of Puerto Rico. The final report is entitled " High School to University in Puerto Rico. "

2. PARITY RATIOS AMONG UNIVERSITY OF PUERTO RICO FRESHMEN ENROLLED IN FOUR-YEAR CURRICULA[1]

	1944-45	1952-53	1960-61
Agricultural operators	0.58	0.79	0.91
Farm labourers and foremen	0.02	0.03	0.05
Skilled workers	1.7	1.2	1.3
Semi-skilled and unskilled workers	0.46	0.46	0.38
Professionals and semi-professionals	11.2	6.6	5.8
Managers, officials and large proprietors	0.35	0.56	0.79
Small Business	4.7	4.2	2.5
Clerical, sales and kindred workers	1.6	2.1	2.3
Overall attendance rates in first year of four-year curricula at all higher institutions of Puerto Rico[2]	2.7 %	5.6 %	8.6 %

1. The denominators of these parity ratios are derived from the census data on the male labour force aged 45 years and over. I also calculated parity ratios using employed males aged 35 years and over with very little difference in the results.
2. The attendance rate is calculated as the proportion of all 18 year olds who are enrolled.

intake. Much depends on how great an expansion takes place. If growth is limited, as in the case of the English grammar schools, it is mathematically impossible for the numerous offspring of the white collar and manual classes to attain an attendance rate even nearly equal to the existing rate of the sparse upper and professional classes. Usually there is a process of class succession with the upper classes reaching near-saturation of their demand before the occupational categories just below them in the class structure begin to raise their rates of attendance. Even the United States has followed this class-succession pattern : the manual classes still have only about one-third the attendance rate of the non-manual classes in higher institutions. Other factors which inhibit equalisation are the elitist cultures of the selective schools on the one hand, and the honour traditionally accorded to manual callings by many working-class groups. Their orientation to occupations of this kind may make working-class families slow to take up academic opportunities which lead to very different sorts of occupations.

However, the hypothesis that equalisation of non-compulsory education must wait upon its mass extension, or at least upon fulfilment of the upper class demand, finds an exception in Puerto Rico. In that island commonwealth, 32 per cent of the age group was attending high school in 1960. This compares with 87 per cent attending in the US. Yet if the parity ratios of the two sets of high school seniors are set side by side, it is clear that the equalisation was as far advanced in Puerto Rico as in the US, except for the children of farm labourers. It was much farther advanced than in Bridgeport, Connecticut, or Seattle, Washington, at the time (1930) when only 30 per cent of their youth were in high school. Furthermore, although the educationally under-privileged farm labourers contributed about a quarter of the Puerto Rican male labour force in 1960, their numbers were declining steadily while the urban working-classes, who were well-represented in high school, were almost 40 per cent of the labour force and expanding.[1]

Similarly, a comparison of parity ratios for freshmen at the University of Puerto Rico in 1960, when 8.6 per cent of the age group were entering B.A. programmes, with freshmen in the US, which had 20 per cent entering, suggests that Puerto Rico will also achieve equal access to higher education at an earlier stage of growth than the US.

The Commonwealth of Puerto Rico has copied the US pattern of mass, egalitarian schooling, with a higher priority on broad access than on quality. In several ways it is outrunning its model. Secondary and university enrolments are exceptionally high for a country with Puerto Rico's limited wealth, degree of industrialisation and youthful age structure. Not only are these institutions growing at a remarkable rate, the pattern of social recruitment to them is radically democratic.

EQUAL OPPORTUNITY AND THE STRUCTURE OF SCHOOL SYSTEMS

A second problem discussed by the conferees was the effect of the *structure* of school systems on equalisation. The traditional dual system of European secondary education segregates high academic performers at the age of 10 or 11 years into a separate school which leads to university. The high performers come disproportionately from the upper social strata. The university-preparatory schools continue to be severely selective, both academically and socially, after the point of entry. As Rose Knight says,

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[1] See page 21.

Note 1, page 20.

PARITY RATIOS IN SECONDARY EDUCATION

1930			1960							
	BRIDGEPORT[1]	SEATTLE[1]		US[2] MALE		US[2] FEMALE			PUERTO[3] RICO	
Upper white collar	2.0	2.0	Professional & technical	0.9	1.0	0.9	1.0		0.8	1.4
			Managers, officials & proprietors	1.4		1.3			0.3	
Lower white collar	1.0	0.8	Clerical and sales	0.6		0.6			1.9	
								Small business	2.0	
Upper Manual	0.8	0.5	Skilled & semi-skilled labour	0.7	0.9	0.7	0.9	Skilled labour	1.7	1.2
Lower Manual	0.5	0.2	Unskilled labour & service	1.6		1.7		semi-& unskilled labour	0.9	
			farmers & farm managers	1.6		1.4			1.4	
			farm labourers	1.3		1.3			0.3[4]	
Population observed :	All high school students		All high school seniors							
Per cent of all youth in the secondary school population observed	31%	32%		87%					32%	

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1. For the source of these data, see Ramsøy, below.
2. Project Talent, *op. cit.*, calculated from Table 5-7, page 5-47.
3. Calculated from data in Sussmann, study cited.
4. Farm labourers were 27.2 % of the male labour force 45 years of age and over and 24.8 % of those 35 years of age and over in 1960. This illustrates the relative decline in this sector of the Puerto Rican economy.

" These schools seem to repel youngsters from the ' wrong ' social class. " That the British grammar schools showed a heavy social class bias in their wastage, even after access to entry had been equalised for pupils of similar ability, is well documented.

Since the war many European countries have " reformed " the dual system. For instance, in Sweden all students are now to remain together in a comprehensive school from ages 7 to 16. There is some curricular differentiation at grades 7 and 8, but separation into different courses of study, only one of which leads to the university-preparatory gymnasium, does not occur until grade 9. In France since 1963, the school organisation has been revised so that all children will enter the lower cycle of secondary education at age 11. They will be streamed into different curricula not all of which lead to selective education, but the curricula are to be offered in a comprehensive school to facilitate switching from one course to another where deemed appropriate (see Laderrière).

Its proponents argue that the comprehensive school performs several important functions. The traditional American argument for the common elementary school and the comprehensive high school is that, by bringing all the social classes into contact in the same school, it provides an underpinning for social cohesion. By offering alternative curricula — terminal and college-preparatory — within a single institution, it facilitates switching between courses of study, avoiding the bad effects of premature choice. Presumably too, it lessens the socially selective character of the different curricula. Under the dual system, the combination of ability selection, social selection, and curriculum content stamp the selective schools with a sharply distinctive class culture. A comprehensive high school, by contrast, is one where students of all curricula and all social classes are supposed to share a common culture.

In connection with the last point several American studies suggest that the social class composition of the student body is related to the school's functioning as a centre for cultural diffusion, especially the diffusion of educational values. McDill and Coleman have shown that cliques of students in American high schools influence each others' aspirations to go or not to go to college[1]. In their study, the high school cliques became increasingly influential from the first to the fourth year, eventually outweighing the class position of the student's family as a determinant of this aspiration. A similar diffusion via student cliques of the intention to go to graduate school has been demonstrated in the case of one American college[2].

In her larger study of American high schools, Ramsøy reported that ability test performance was associated with the social composition of the school. The higher the proportion of middle class seniors in a high school, the higher the ability test scores among seniors from every social stratum[3]. The precise mechanisms which produce this effect have not been demonstrated. Probably schools with higher social composition attract and hold better teachers. However, it is also likely that behavioral norms conducive to good or poor academic preformance are learned by students from each other just as educational aspirations are learned.

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[1] Edward L. McDill and James Coleman, " Family and Peer Influences in College Plans of High School Students ", *Sociology of Education,* Vol. 38, No. 2, Winter 1965, 112-126.

[2] Walter L. Wallace, " Peer Influences and Undergraduates' Aspirations for Graduate Study ", *Sociology of Education,* Vol. 38, No. 5, Fall 1965, 375-392.

[3] Natalie Ramsøy, *Social Structure and College Recruitment,* Bureau of Applied Social Research, Columbia University (mimeographed), 290-291.

Many hypotheses concerning the effects of the comprehensive school rest on the assumption that it brings youngsters of all social classes into contact with each other. With Ramsøy's richly documented paper before us, we cannot continue to take this supposition for granted. The American comprehensive high school, looked at closely, turns out to be class-segregated to no small extent. As Ramsøy makes clear, this is due to the ecology of social class combined with the local character of the high school's recruitment. Her representative sample of high schools are located in communities of different size and type across the country. Local communities have different economic functions and different occupational structures. In the United States, where every community has at least one high school, the social composition of the school reflects the occupational structure of the community it serves. As a result, each high school is *not* a microcosm of the whole social class structure ; on the contrary, many high schools are overweighted with students from one or another part of the social continuum. By Ramsøy's criterion of over-representation, 56 per cent of the high schools in her sample had " a distinct class character ". Another study in Nashville, Tennessee, has found that junior high schools and high schools in that metropolitan area are class-segregated, reflecting the class segregation of the areas they serve. Class segregation is greater still in primary schools which serve smaller, more homogeneous neighbourhoods[1].

We already know that *de facto* racial segregation in American urban classrooms can be overcome, in the face of residential segregation, only by abandoning the neigbourhood school. Large " educational parks " with the entire metropolitan area as their recruiting ground have been proposed as a way of untying schools from racial ghettoes. A modification of the local recruitment principle might likewise be required if we wished to reduce *de facto* social class segregation.

While a good deal is known concerning the relationship of the student's personal characteristics, such as his social class of origin, sex, race and place of residence to his educational accomplishments, less is known about how the character of *schools* affects educational achievement. Recent research has begun to fill the gap. Project Talent, the US educational opportunity survey[2] and Douglas' well-known British study, *The Home and the School,*[3] converge on some important results. As schools are now organized, they are not so potent an educational institution for young children as the family. To the extent that schools do affect their pupils' ability, it is their *personnel* which is the effective agent. Each pupil is influenced by the educational strength represented in the families which patronize the school, taken as a whole. Also, pupils' ability is correlated with, and probably influenced by their teachers' ability. All else about the school, including such things as the presence or absence of libraries and science laboratories, is less significant for educational results than its membership. Pupils from educationally weak families are more affected by the quality of their schools than pupils from educationally strong families. The former vary a good deal in ability test scores depending on the kinds of schools they attend; the latter vary much less.

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[1] Albert Lewis Rhodes, Albert J. Reiss, Jr., and Otis Dudley Duncan, " Occupational Segregation in a Metropolitan School System ", *American Journal of Sociology*, Vol. LXX, No. 6, May 1965, 682-694.

[2] James S. Coleman, *et al., Equality of Educational Opportunity,* US Department of Health, Education, and Welfare, Office of Education, Washington, DC, 1966.

[3] J.W.B. Douglas, *The Home and the School,* MacGibbon and Kee, London, 1964.

These three multivariate studies confine themselves to the analysis of what is. Experiment together with evaluation is needed to reveal what might be. An important opportunity to study the effects of a change in school structure is afforded in Sweden where a major reform is in progress. Careful evaluation of educational outcomes in the new comprehensive grundskola as compared with the old dual system has already begun. Its first findings date from the period when the comprehensive school was still regarded as experimental. They show that students of all social classes are much more likely to plan for an academic upper secondary education if they attend a comprehensive school than if they are enrolled in the traditional system. However, while the aspiration to an academic secondary education was raised at all social class levels in the grundskola, a strong differential between the social classes persisted[1].

EQUAL OPPORTUNITY AND SOCIAL CLASS SUBCULTURES

The third major problem raised at the conference had to do with the socially unequal distribution of the " measured ability " which makes for academic success. Few social scientists doubt that the distribution of measured ability as between the social classes is in part — some believe in major part — a function of differences in the class subcultures. The obvious ways in which middle-class culture gives rise to academic ability and motivation are documented in a large literature. More subtle aspects of the continuity between class subcultures and the ability demanded by the school are just being opened up for investigation. An illustration is the new interest in the differential use of language by the social classes. Basil Bernstein presented the conference with a description of his current research which promises to relate the question of language patterns to school performance. The schools have made it their primary aim to equip disadvantaged children with " standard " pronunciation and grammar, but

> ... if our concern is with the maximum development of the child, we must recognize that his language is not merely related to the way he speaks, but to the way he thinks. A low status dialect may hamper his social mobility, but a restricted language development may limit his intellectual potential. ... The question is unanswered as to whether most sub-standard dialects do provide language structures and resources adequate to the needs of complex communicative or problem-solving tasks. If they do, then clearly the school has failed to tap the potential that exists. There is however, a pervasive conviction that they do not and cannot. The restricted style of ' lower class ' language is generally viewed as inadequate to the conceptual tasks of modern society[2].

The last part of this quotation illustrates a split, both intellectual and ideological, in the social science literature. Is working-class culture to be treated as valuable and incorporated into the educational system or is it to be defined largely in terms of " deprivation " and " deficit " ? The split appeared at the conference in the form of a dispute between Vaizey and Young as to whether the traditional working-class culture would survive in our technological society. They agreed that it had great staying power, but Vaizey claimed that in the " war of extermination " with the middle-class culture, the working-class culture would eventually disappear. Young doubted this. He also protested the drift of policy which " shoves the middle-class culture down the throats of the working-class " without consulting their wishes.

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[1] See Kjell Härnquist, " Social Factors and Educational Choice : A Preliminary Study of Some Effects of the Swedish School Reform ", *Institute of Education*, Göteborg University, No. 3, 1945, Mölndalsvägen 34, Göteborg, Sweden.

[2] J. Gussow, " Language Development in Disadvantaged Children ", *IRCD Bulletin*, Vol. 1, No. 5, November 1965, Information Retrieval Center on the Disadvantaged, Yeshiva University, New York.

It was the consensus of the conference, however, that many traditional working-class values are nonconducive to the development of academic ability. In the circumstances several types of policy are possible. Different kinds of education might be offered to different social classes. In effect, this is the policy of the dual system which offers a " practical " education to the working class and an " intellectual " education to the middle class. From this perspective, the chief objection to the dual system today is that economic development is making it obsolete. In 20 or 30 years advanced industrial societies may have very few non-intellectual jobs. Many conferees noted that the old dichotomies of " vocational " versus " academic " and " practical " versus " theoretical " education are losing their meaning. Practical and theoretical aptitudes go together in the same individuals rather than being mutually exclusive. A too-specific vocational training of any sort is rapidly obsolescent in a modern economy. The flexibility demanded by rapid social change is best served through a general education which is intellectual in content. John Vaizey put the objection to the policy of different types of education for different groups forcefully : " One answer is to say we ought to create schools ' appropriate ' for the working classes, for girls, for Negroes, etc. That's an inadequate answer, I think, because it is just a fact of life that in order to acquire the skills necessary for operating in a modern society you have to have the kind of vocational attainment implicit in the middle class educational system. "

Another policy is intervention in the early socialisation of lower-class children in ways calculated to increase their capacity to pursue an academic curriculum. Various types of intervention are described in Mushkin's paper. An example is project Head Start.

One dilemma this policy runs into is cost. In a background note to the conference, Seymour Harris estimated that an adequate programme of pre-school education for disadvantaged children, in combination with some other equalisation measures recently proposed, would require three times the proportion of GNP presently spent on education in the United States. He doubted that such a sum would be forthcoming. On the other hand, Mushkin was optimistic about the possibility of finding new sources of revenue for education and Hayward stressed the need for greater efficiency in the use of educational resources. Our knowledge of the " factors of production " in education, most particularly of the utility of various teaching methods and the effective " mix " of teaching technology, is low. This is an area in need of research.

The idea of " *compensatory* education for the culturally deprived "[1] implies not merely immense spending, but spending *more* on the schooling of the disadvantaged than on that of the advantaged — a policy which genuine equalisation would require. The social distribution of income and political power makes such a course of action highly improbable. This, in part, is the point of Vaizey's paper.

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[1] See Benjamin S. Bloom, Allison Davis and Robert Hess, *Compensatory Education for Cultural Deprivation,* Holt Rinehart and Winston, New York, 1965.

Another dilemma of programmes for direct intervention to change a subculture is that they can yield results only if the other conditions are also changing. This point is often lost in policy-oriented research as well as policy-making. For example, attention to the problem of high school dropouts in the US has increased sharply in recent years, while the proportion of students who drop out has steadily declined. Much of the study and remedial effort has been devoted to improving the mutual " adjustment " of potential dropouts and the school. But among the relatively few who drop out today, completion of high school would very often make no difference to their bleak employment prospects. So long as high school graduation is irrelevant to the life chances of these youth, no amount of counselling can prevent their alienation from school[1].

Possibly a third policy alternative is greater diversification in types of schooling. Anderson pointed out that the United States has achieved relative diffusion of education and relative equality of participation, by accepting schools of many different kinds and qualities. If one keeps this in mind, equalisation in the United States is a good deal less than it first seems. Nevertheless the limits of opportunity are not so great as under the dual system. The gradations of kind and quality are many. Movement between different types of school is fluid. There are second and third chances for late bloomers and those who change their minds. The internally differentiated American system arose as a response to demand under a structure of decentralised control. Some recent reforms in Europe involve differentiation of secondary and higher institutions with bridges to facilitate movement between them. This is a development in the direction of the American pattern. At the same time, the cause of further equalisation in American education will be served if its large diversities in quality are narrowed.

To summarise, the conference dealt with three aspects of education, relating them to the question of equal opportunity. The main points which emerged under each heading, as I see them, are the following :

1. *Expansion of educational opportunity*. In Europe and the United States, educational expansion has not led automatically to more equal participation as between the social strata. The demand of the upper strata for higher education has usually been fully met before further expansion produced a lessening of class differences. However, the evidence from Puerto Rico suggests that newly-developing nations need not recapitulate this pattern.

2. *The structure of school systems*. It is well established that increased accessibility of selective schools, for instance to a rural population, increases the participation rate.

The shift from the dual system toward comprehensive secondary schools in Europe is expected to facilitate movement of students from one curriculum stream to another, to lessen the social selectivity of the curricula, and to increase the participation of working-class students in higher education. The reforms should be carefully evaluated in terms of whether they achieve the expected results.

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[1] See Robert A. Dentler and Mary Ellen Warshauer, *Big City Dropouts*, Center for Urban Education, New York, 1965, for an excellent study of the economic and social context of the dropout problem.

Comprehensive schools cannot be assumed to be schools with a socially representative student body. If attendance is near-universal and recruitment is based on locality, the school will reflect the social composition of the local area it serves. In very many places, this means it will be class-segregated in the sense of having an over-representation of students from one part of the social class structure.

The social class composition of the student body, in turn, has important consequences for educational outcomes. There is considerable research evidence that children from homes which are educationally weak profit by attending school with pupils from educationally stronger homes. The latter, who evidently get much of their education within the family, turn in an academic performance which is less closely associated with the quality of their schools. That is not to say that children with familial advantages are not at all affected by the quality of the schools they attend, but that the effect on them is small by comparison with the others. To put the policy implications a bit too simply, disadvantaged children have much to gain and advantaged children little to lose by attending schools which are *not* social class segregated. However, the slightest obstacle to their children's success in academic competition is very important to middle-class families. They, and many teachers, are convinced that schools which are socially heterogeneous, and therefore heterogeneous in pupil ability, are detrimental to their children's progress. This conviction is behind the American middle-class flight to suburban neighborhoods with " good schools ". The problem has not been so fully illuminated by research as it might be. What *ratios* of academically strong and weak children in the same schools and classrooms would best serve the educational interests of all ? How large an academic achievement gap can be successfully accommodated within a group of pupils ? How big a contrast in family cultures can be tolerated among classmates without a loss of cohesion ? Will the new techniques of individualised instruction transcend the problem or will they, on the contrary, reduce the interchange through which children learn from, and socialise each other ?

3. *Social class subcultures and educability*. The nature of a modern industrial society requires that all children undergo an education which is essentially intellectual in content, in order that they may become adequate citizens. In some working-class populations children are socialised in ways not conducive to the development of abilities, especially language skills, prerequisite for academic success. What sorts of intervention in early socialisation might ease the problem and how to pay for them are questions in need of more investigation.

Education is becoming a key to social position as never before. Few issues that we face today are more politically sensitive than educational privilege and under-privilege. Equalisation of educational opportunity demands statesmanship and political action. The scholarly studies in this volume and the agenda of further research suggested by the conference are offered as a hopefully useful aid to those who work toward the goal.

Part One

ANALYSIS
OF SOCIAL DISPARITIES IN EDUCATIONAL PARTICIPATION AND THEIR CAUSES

7/79

I

SOCIOLOGICAL FACTORS IN THE DEMAND FOR EDUCATION[1]

by

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Economic and sociological factors in the demand for education are interrelated. Effective economic demand for schooling is mediated by the social relationships among the major groups comprising a society ; likewise, " social " demands reflect changes in the economy. Trends in per capita real output, in the distribution of the product, and in the incidence of taxes or subventions modify the social structure of the society and the articulate requirements for education. The same factors alter the distribution among groups of both actual and perceived school-related job opportunities, their aspirations for schooling, and their capacity to utilize opportunities for various sorts of training.

In discussions of educational policy among the public, as well as in scholarly writing, economic and social arguments are intermingled, often illogically. Items from one domain may be used as proxies for those in the other ; for example, assertions about economic " need " for higher outputs of trained people may be rationalizations of the proponent's preferences. In other instances a writer may search for a social explanation of changes in patterns of school attendance that are simple reflections of changes in levels of income. The notion of " need " or " demand " for education should be used with semantic and logical prudence ; however complementary the economic and the sociological approaches, one should be clear which set of concepts is being used.

It is assumed often that educational programmes designed to encourage economic development will also insure that educational opportunities conform to the norm of equality. Such will be true generally when we speak of the developed countries. In elitist societies also at intermediate development levels reduction of inequalities of educational opportunity by breaking down social and economic polarization in the society will usually facilitate development. When we turn to the problems of the less-developed countries, however, efficiency and equity norms usually conflict. In drafting new educational policies past trends will provide little basis for selecting among alternatives though they will contribute to explaining the distribution of educational aspirations among subpopulations. In the advanced economies, it is useful to notice, the market demand for education will normally be lower than " potential " demand.

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[1] In this brief paper there are no citations, and no tables of data have been included. To include representative data would have greatly lengthened the paper. Pertinent data are to be found in several of the other papers. Though the author has written in an indicative mood he is not indifferent to policy implications, and brief comments on policy are included at several points.

In this paper it is assumed that the articulation and implementation of demands for education through political processes lie outside the scope of the discussion. That topic concerns the formulation and implementation of policies rather than the substance of them, the latter being the present theme.

THREE APPROACHES TO MEASUREMENT OF EDUCATIONAL DIFFERENTIALS

We may distinguish the identification of

1. static differentials,
2. comparative statics, and
3. dynamic analysis.

Underlying the structure of this paper is the assumption that efforts to alter the distribution of educational opportunity should be based on a delineation of existing differentials and the directions in which they are moving. It is important to know whether an expansion of opportunities in desired directions is under way within the existing framework of policies, whether expansion is being blocked by present policies, or whether obstacles will shortly arise if present policies remain unchanged.

One simple though important methodological observation is in order since so many discussions of this topic are confused by failure to take it into account. The apparent " causal " weight of any given factor as identified by statistical analysis will always reflect the mixture of factors included in the analysis. What appears to be a dominant factor may turn out to be of only moderate influence when a more varied set of factors is brought into the picture.

A. *Static Differentials*

The first task is to identify the existing differentials in utilization of educational facilities. (What is to be regarded as a " society " for analysis is a matter of convenience.) In the present deplorable state of educational statistics this operation must often fit together data from disparate samples and local investigations. Published data may relate only to the conventional schools. Only primitive cross-tabulations may be possible. Accordingly, significant research in some countries will await an extension of coverage in the data, and improvement of data may be the priority operation.

In principle one's aim is to generate a complex matrix of information relating different indexes of utilization to the principal factors known or suspected to have a definite influence upon the incidence of opportunity. The dependent variable can be elaborated to the degree that the data allow and according to how many aspects of school attendance are deemed to be important for understanding the operation of the particular school system. Thus, one can classify enrolments by age of students (as a ratio to the cohort), sex, level of education already achieved, and kind of school. Usually it will be more fruitful to invest effort in relating utilization to numerous explanatory variables than in refining indexes of enrolment. Information about the quality of schooling received by pupils or the scholastic achievement of various sets of pupils will be available in only a few countries, at least in a form permitting cross-tabulations with other items. Despite the many defects with which we are familiar, estimates of children's abilities should be sought.

In producing data to be used in policy decisions, it is important to generate as complex a matrix as the data will allow. The gradient of school attendance in relation to a given factor (such as parental occupation) will vary according to the other factors examined (as place of residence). Distance from secondary school has been shown to influence attendance, but that tendency is relatively weak among children having well-educated parents. Schooling among Negroes in the United States varies by region and size of community sufficiently to put many Negro children ahead of numerous white children in attendance. When using such composite variables as " social class " one should pay special attention to the different aspects of status : income, parental education, parental occupation.

It is essentially an exercise in variance or regression analysis that is being described. One can enumerate the proportion of an age cohort who are attending secondary school cross-classified successively by sex, region, size of community, religion, ethnic group, occupation and income of father, and education of each parent. In apportioning the total variance among those factors one can allow also for the interaction element in different parts of the matrix. The importance of religion, for instance, can differ by social stratum or by region. Mother's education will have more effect for children with poorly educated fathers, but this relation in turn will change as other factors are considered.

Any differentials in educational opportunity that may be observed will reflect the educational history of the given country. They will reflect also the particular economic structure of the economy with respect to regional or ethnic subpopulations. Observed rates of school enrolment are points on various paths that should be the main object of a dynamic analysis. For the economist, those differentials affect the supply response by given grades of labour in the face of specific demands.

How factor weights assume different patterns in contrasting subpopulations may be illustrated by a summary comment relating to an earlier study of income differentials. The between-race variance for high farm incomes was much larger than the variance between states or between farm tenure groups. Within the white population, tenure differences outweighed state differences, while among Negroes the opposite was the case. Within each race state differences were larger among croppers than among either owners or renters. Using low incomes as the index, state differences were larger than those for race ; within each race state contrasts overshadowed those for tenure, but variance associated with race was much larger in some states than in others.

B. *Comparative Statics*

Our aim should be to prepare matrices of the foregoing kind for different dates in a given society and for different countries at the same date(s). While we must rely often upon such comparisons as approximations to a dynamic analysis, they really give us no dependable picture of flow sequences over time.

By comparing such matrices for different societies we are better equipped to avoid false conclusions about the factors that control utilization of schools in a particular country. Using crude classifications of enrolment one might conclude that artisans' children have " too low " rates, but if the income pattern among artisans is peculiar in that particular case we would make different inferences about policy than otherwise. Or, attendance among children of unskilled workers may be distinctively low because in the given country that occupation is recruited mainly from a disadvantaged ethnic group.

We should expect the apportioning of variance among factors to be structured in a different way in each country, due to historical backgrounds. In some countries religion is mainly a proxy for some other factor (as place of residence) but elsewhere it plays a major independent role in affecting education.

Contrast of these matrices for different times or places is only a crude indication of change, yet it can provide clues to recent or prospective modifications in the patronage of schools. When certain variables have about the same weight in several countries, one would anticipate that the depressing effect of certain other variables will diminish. In making this sort of interpretation one inevitably relies upon basic conceptions of how social change is patterned.

The " comparative statics " approach is of particular utility in identifying those factors in school attendance that are of major importance over a whole range of societies. This enables us to establish an approximate order of magnitude among the social influences upon the demand for education. At the same time, evidence will emerge pointing to unique configurations in particular countries. In a previous comparison of social backgrounds of university students in several countries, for example, it was observed that the relative attendance of children from homes of farmers or labourers or businessmen varied among countries in ways that suggested the influence of special national traditions peculiar to those groups.

In these sorts of investigation it is important to distinguish the relative *incidence* of school attendance for any given subpopulation from estimates of the relative *influence* of different factors in the countries under examination. Although American Negroes are disadvantaged compared to American whites (though not uniformly so in all parts of the nation), they enjoy extremely high opportunities compared to the inhabitants of most other developed countries.

This matrix analysis will point to particular sectors of a society from which expanded enrolments can be anticipated without major changes of policy because the influence of the major factors is similar to that in comparable countries. These sectors will not be the same in every country. The relative weight of the factors determining attendance will differ, also, according to the level of overall attendance. When few pupils attend secondary school, the inhibiting factors are not the same as for situations in which many attend. The factor weights will vary, moreover, at different levels of the school system and by type of school. Putting this another way, comparison of matrices for various societies will indicate the extent to which ceilings on enrolment are screening out particular segments of the population as contrasted with the effects of apathy.

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C. *Dynamic Analysis*

The distribution of years of schooling completed changes its level and its form over time, and those changes proceed at different speeds in the several subpopulations of a society. An earlier study of racial contrasts in schooling within the American South revealed three characteristic situations. (*i*) Where educational progress had been rapid among whites but social distinctions among the races remained large, inequality of schooling between whites and Negroes was high at each level of school. (*ii*) In those states in which there has been little popular interest in education, a mass of semi-literate whites share disadvantages with Negroes ; however, a white minority stands apart from the rest of the whites and from virtually all Negroes. (*iii*) Where racial distinctions have been moderated, the value placed upon schooling extends to both races, making for a relatively small lag of Negro behind white progress and for rather slight disparity between the two races today. At a time when schooling (or a given level, as secondary) is just beginning to spread through a population, only a tiny group will be distinguished from the less educated mass. Gradually the model section of the pyramid moves from the bottom to the middle of the distribution and eventually toward the top of it.

At any particular date in that ongoing transformation one could identify those subpopulations whose children are clustered mainly at one or another point along the whole distribution of schooling. The lagging mass, to be sure, will disproportionately be made up of lower-status children, but the upward thrusting peak will not be drawn solely from privileged strata. The centre of gravity of rural distributions will be lower than that for urban children, and so on.

By treating " years of schooling " as one treats the distribution of incomes one can compare inequality of educational attainment with inequality in other aspects of living. In the United States a few years ago, for example, the top five per cent of families received 25 per cent of total income. Among the young adult population the best-schooled five per cent possessed less than 10 per cent of all years of school given to that age group. The lowest third of income receivers obtained only a tenth of total income but the least schooled third of the young adults received over a fifth of all schooling. States differed considerably in this measure of inequality in schooling.

If we are examining a society known to have a strong impetus toward democratization of social-life, we can interpret such synchronic distributions as pseudo-time series. There is a peristaltic process by which subpopulations escalate their offspring up the ladder of education, a process that moves at different speeds in various populations. A dynamic analysis consists in part in tracing the " flow dynamics " of pupils ; subpopulations that have increased their share of enrolments at an intermediate level of school can be expected soon to increase their share at a higher level merely by normal educational advance. A more adequate dynamic analysis must focus also upon what factors are changing the rate at which educational advance is occurring among one or another group. There is change in the capability of a group to express its existing preference functions for schooling (change along the demand curve) but there is also shift of the demand curve itself.

Changes in the demand for schooling can be investigated in two ways. On can take a macro view, considering the influences carried by the mass media and the diffusion of new customs that lead to a higher " taste for schooling " in a group. For example, the barrage of publicity in the American press about the poor job prospects of those who do not finish secondary school presumably alters individuals' determination to remain in school. One can, second, take a micro approach, which examines behaviour in smaller decision units and considers face-to-face influences, of which there are many types.

MACRO VIEW OF PROCESS

A. *Dynamics of Inter-Stratum Relationships*

Both the diffusion of aspirations for schooling and a broader utilisation of schools are closely associated with the " fluidity " of a status system. Those relationships can be observed equally in societies with high and with low levels of enrolment at a particular date. In the United States as late as 1890, for example, less than five per cent of an age cohort completed secondary school. Experience has shown in several societies as well as in the United States that when communication along the vertical dimension of status is relatively free new educational norms will spread throughout the society rapidly.

Communication across strata is itself a social demand for more education in the sense that a more open interaction system generates new kinds of occupations to be filled. Likewise, vertical social mobility both generates new demands for schooling and is augmented by spreading aspirations for education. Yet it is overly simple to consider education only as a means of facilitating mobility ; the very act of seeking more education by the upper strata in order to bulwark their position stimulates emulation of that seemingly valuable education by the lower strata.

The honourific quality of education is for most people one reason for seeking it. Groups striving to climb the social ladder (or to avoid demotion) seek more education for their offspring because schooling has come to be viewed as a legitimation of status. This consideration is particularly important in some societies, and it often is linked with acceptance of prolonged youth and enjoyment of school for its own sake with little special regard for any economic benefit.

Appreciation of education indeed in many ways resembles behaviour with respect to consumption generally. Diffusion of refinements and of congenial leisure activities, irrespective of vocational utility, may spread in complex paths among the groups in a society. Additional or different schooling comes to be a prestige good to be sought as a sign of advancing status. But to a greater extent than is acknowledged in today's climate of economic planning, education is intrinsically satisfying apart from any conscious inter-strata comparisons. Those groups striving to improve their social position assign vocational utility a higher place, and they make heavy sacrifices to qualify their offspring for the better job.

Until recent times in most countries ordinary families viewed learning beyond simple literacy as important only for the upper strata. Workmen, farmers, and traders had other means for advancing their children above the common level if so motivated ; apprenticeship has been the most usual way. It is only when literate and complex societies become tightly integrated and must cope with rapid change that interest in schools spreads to all sections of the society.

Effective demand for education " in the market " is a function of income ; the income elasticity of demand for schooling is considerably greater than unity. More schooling will be demanded by groups experiencing a rise in income, even when that rise is no greater than in other groups. But even without an improvement in economic position, groups do assimilate the educational norms and customs of superior groups. That is, a given demand curve for schooling can shift so that more schooling is sought at the same income level. These shifts of demands for education are occurring constantly as a result of interaction with other groups, supplemented by ideas flowing through the mass media.

But status as perceived by juxtaposed or interacting strata is multifaceted. A stratum may give relatively much or little emphasis in its aspirations to the material or the non-material (as educational) aspects of status. How these attitudes develop will depend upon the traditional social structure of a society and on the local history of class relationships. Those circumstances affect the rapidity with which educational aspirations are imitated and the aspects of education that are imitated.

A particular elite is seldom set off sharply from bordering groups. Names like " bourgeoisie " or " gentry " or " middle class " are abstractions ; the boundaries of established strata are vague, and marginal individuals move up to make use of opportunities hitherto enjoyed by the group above them. Those who control existing schools adopt a watchful, a tutelary, or a benevolent attitude with respect to education of other groups, be the latter allied or dependent or threatening to their own position. Toward the populace they may assume the view that the lower orders must be disciplined, civilised, and drilled to be dutiful and productive labourers. In most western societies there has been a pervasive belief that ambitious and talented individuals should be encouraged to make their way upward by means of education.

This situation can also be described in terms of " cross pressures. " The balance of stimulating and inhibiting influences differs between urban and rural Negroes in the American South and between those living in the North and in the South. Rural families living near large cities will both receive and respond to different incentives for schooling than those residing in remote localities. Responsiveness to educational opportunities by girls will differ from that among boys in accordance with place of residence, religion, ethnic group, social status, and so forth. The attractions of apprenticeship as against more formal sorts of technical training vary among different categories or artisans.

In these shifting inter-group relationships a variable of special importance is the imputed ability of individual children. The degree to which it is assumed that a certain capability is a prerequisite to enjoyment of particular educational opportunities has varied historically in all societies and between classes in each. It has been commonly assumed, for example, that any children from the lower class admitted into schools traditionally serving the elite must possess a distinctively high aptitude while elite pupils need be only of mediocre ability. Rising groups often assume that only their most brilliant offspring should aspire to enter hitherto unpatronized schools. These social definitions of academically relevant intelligence can shift quite rapidly as regards a particular type of school. The definitions are always being redefined through contact between strata as well as by broader influences bringing about new educational ideologies.

B. *Ecological Structuring and Diffusion of Educational Aspirations and Enrolments*

Among investigators of the problem that is the theme of this symposium there has been more attention given to the social-status limitations on schooling than to other obstacles. The factor of locality has been largely overlooked, for example ; only recently in some countries have attendance rates in secondary schools been analysed for provinces. This is despite the fact that for England there were studies over a century ago showing that schooling among counties varied closely with economic development ; for France such data exist even for the late 17th century.

For education and other non-economic phenomena there is something like the economists' geographic multiplier at work. The educational multipliers are related to, but not identical with the economic ones. Catchment-basins for schools emerge and persist over long periods. Residents of some localities develop strong educational mores, and those local differentials persist over long periods, often despite countervailing economic forces. Thus in France relative educational levels at the end of the 17th century were quite good predictors of primary school enrolments in the mid-19th century.

Circumstances favourable to expansion of schooling cumulate or pyramid in a centripetal manner by areas as well as by social strata. Consequently the inter-group stimulation and emulation discussed above will work more intensively in the focal centres, and the social demand for schooling accelerates there more rapidly. If the society is not rigid, offspring of disadvantaged groups who are so fortunate as to reside in those centres enjoy opportunities above those of more privileged groups residing in remote localities.

One useful way to delineate the ecological structure of aspirations for, or utilisation of schooling is to observe the cross-pressures mentioned before. In addition to earlier examples we can instance artisan families in cities compared to business families in country towns, daughters of urban immigrant workers compared to daughters of farm owners in the hinterland. The gradients in ecological space are steeper for children from lower than from higher status families ; presumably they are steeper for university than for secondary school attendance. Any particular ecological pattern of school use can be modified by inaugurating a system of scholarships, though this may entail an offsetting obstacle for the less able offspring of prosperous families.

The thinness or thickness, so to speak, of the society's texture (as exemplified in communication or other inter-group relationships) affects the gradients within such ecological structures. The media and patterns of communication also affect the rapidity with which new norms or practices in education spread through a society as well as the aspects in which changes will be most rapid.

One can construct models of " information fields " depicting the communication structure that controls the spread of new norms and practices in education from focal centres. That is to structure ecological space socially in terms of established group interaction patterns in topologic space. It has been demonstrated, for example, that folk schools in Sweden spread over the land in a pattern similar to that observed for earlier and later traits.

Educational norms of aspirations and use of educational opportunities emerge, become consolidated, and diffuse through an ordered ecologic space.

At the same time, as discussed earlier, parallel sequences are occurring in vertical social space. At any point in either set of co-ordinates (i.e., for any subpopulation) one can delineate the distribution of schooling among that subpopulation. These distributions are always changing their form according to the stage of development of education represented. Such distributions supply a basis for extrapolating the social demand for education in forward time.

C. *Mass Diffusion of " Studiogenic " Propensities*

The two foregoing approaches to inter-group relationships in social and ecologic space can be converted into a " mass " approach by disregarding subpopulation boundaries. The conversion could reflect a preference for use of data procured from individuals. It could also reflect doubts as to the existence of " real groups " that affect educational behaviour.

This third approach borrows heavily from the analysts of communication, in particular those who work on mass media. There is a close parallel also to the studies of consumer-goods markets. One will find himself now speaking of " opinion leaders ", " two-stage communication ", cosmopolitants vs. localities, etc.

A market demand for education is in part a derived demand, reflecting the prospective use of education for earning a living. A mass communication analysis begins not with changes in demand for educated people but with the spread over a population of a realisation that such shifts in demand are occurring or in prospect. But, as already remarked several times, there is also the consumer appeal of education. From either perspective both public opinion and market research techniques are useful.

People may be only half aware that they are adopting new norms for the possession or use of something, in this instance education. They come to like new styles of household life and of intellectual life in similar ways. But the modification of attitudes about education is to a larger degree affected by changing ideologies. To be sure, one can show that continuing in school will " pay ". But many individuals remain in school because it is " the thing to do ", with even less calculation of alternatives than they use in purchasing an auto.

In this " mass media " approach one tends to think of various social categories, rather than of real social groups. Data are organised in terms of income, age, or household composition more than in terms of social class or neighbourhood. Here one is not so much concerned to conceptualize the determining forces that affect education as with the ingenious collection and processing of data. But there is no limitation on the sophistication with which one can work over the data provided the sample design includes the variables that prove to be important.

MICRO VIEW OF PROCESSES

As one moves toward more complex matrices of data he is impelled to turn to interviews with individuals because regularly compiled data include too few attributes. Moreover, as we try to get behind the numerical indexes we become steadily more interested in how individuals variously located in the society " define the situation " as respects educational opportunity. We elicit expressions of attitudes, preferences, and anticipations ; we ask about hypothetical choices as measures of salience among factors. Attitude data are elusive as everyone knows ; for example, an American investigation showed that families may state high aspirations for their children's schooling but be making no financial preparations to meet the costs.

There are innumerable sorts of face-to-face situations that affect the modes of subjective rehearsal about educational plans. But certain situations are of special importance and some of these can be briefly examined.

A. *Intra-Family Socialisation*

The level of his parents' education is certainly one of the best predictors of a child's aspirations for schooling. Some of the more subtle mechanisms in this sphere of socialisation have been revealed by the work on " achievement motivation ". Children with educated parents assimilate the habits that underlie academic proficiency for the most part unwittingly. When parents plan that their offspring shall receive more education than they acquired, children are both exhorted and unconsciously stimulated toward ambitious plans for schooling.

An order of " higher " and " lower " is spontaneously imposed on many aspects of life. The structure of occupations and strata itself embodies such a scale, as does the variety of consumer goods offered in the markets and used by families with different positions in the society. The routines of living and of both parent-child and sibling relationships revolve around situations in which possibilities of " improvement " are obvious. The dependence of higher aspirations — including the non-remunerative aspects of education — upon a higher level of schooling is impressed upon the attention of a child in daily life. For children in some strata little supplementation of such incentives by the school is needed, but for children from less privileged families the arousal of motivation to continue in school will depend upon the influence of teachers and fellow pupils.

Acceleration of school enrolments is explained partly by this cumulative interaction within families ; particularly in western societies, the mother's education is crucial in this respect. Needless to elaborate, appreciation of education increases with the amount of it already received ; as successively higher levels of schooling are attained, the benefits for leisure and for sheer " intellectation " multiply.

Little research has been done on these intra-family influences upon educational aspirations despite the innumerable studies in which parental education has been used as one category of classification. Glimpses of the potentials for more intensive work in this area are revealed by such phenomena as the failure of many educated parents in the hinterland to appreciate that their children's capabilities warrant aspiring to enrol in a first-class college rather than merely attending the familar nearby one.

B. *Neighbourhood Effects*

With communities, as with families, the present level of educational attainment predicts the level of educational opportunities offered to children. Of importance here is the fact that families of similar sort tend to live in clusters. The stimulation of aspirations within a family is reinforced by peer-group stimulation among the children, each of whom has had a broadly similar indoctrination at home. That secondary pupils and university students appear in non-random clusters is due not only to neighbouring families having " like " aspirations but also to their having " common " aspirations : articulately shared appreciations and motivations.

Whatever the size of units one uses to represent neighbourhoods or communities, they will vary in degree of provision of schooling and in aspirations for additional education. From this fact arises one of the major methodological difficulties in research about educational aspirations ; this difficulty has emerged particularly in studies of the " quality " of education. It has been almost impossible to demonstrate that a school exerts a specific influence upon its pupils or that the quality of teachers affects learning, independently of the community milieu from which pupils originate. Children differ in average " ability " when they enter particular schools, and this ability is not easily separable from the characteristics of the community. The salaries of teachers or their training, the aptitudes of pupils, and expectations for continuing in school vary by localities as well as by social level.

Yet this clustering of characteristics is not perfect, which gives rise to cross-pressures and to what has been called " structural effects ". If the proportion of families with zeal for education is comparatively high, the performance of their children in school is facilitated. In turn the level of performance of children from less zealous families is also raised. Where few children attend secondary school, this facilitating influence may be weak ; where more children enrol, aspirations may accelerate rapidly.

C. *Two-Step Communication*

Recent research suggests that the effects of mass media are mediated by individual links of face-to-face communication. The more cosmopolitan individuals are more responsive to the incoming stimuli, and their influence upon associates leads the latter to attend to or respond to the impersonal communication.

Any group characterized by a particular level of interest in some emerging custom (such as secondary schooling) will display large internal variance in that interest. In each group or stratum individuals at the boundary have better contact with their opposite numbers just across the boundary. It is these intermediaries who function as opinion leaders to their fellows who are less atuned to the new influences. They are the links between the larger world of new customs, ideologies, or aspirations and the lagging members of their group.

These pace setters are the first of their group to move up to higher levels of educational performance. They are key individuals, families, or localities upon which to focus new incentives as part of a strategy of educational expansion.

D. *Classroom and School Climates*

There is little need to underline the fact that teachers stimulate higher educational ambitions, in the best instances, but they can also dampen ambition. By their commitment to a way of life and to schools as living organisations teachers embody the values served by education. This circumstance is one of the most solid arguments for teachers being of higher social origin than their pupils.

How effectively teachers serve as models, however, is affected by their positions on key educational issues. Which children will be motivated and to what extent depends upon teachers' views as to the proportion of youth who should move forward to a higher school. Association of the " best " teachers with pupils of modest as well as of superior aptitude has a special importance in this respect. Stimulation of pupils by the school atmosphere is accordingly affected by the practices of streaming or of separate schools. There are counter forces ; teachers in the less esteemed schools may push their pupils vigorously in order to prove the merits of that school. On all these points, unfortunately, we have little concrete evidence beyond impressions.

The mixture of different sorts of pupils in the classroom has effects similar to those described for communities. This is not the occasion to review the discordant evidence on homogeneous grouping nor to describe the Stockholm experiment that showed classroom " mix " to have different effects with different kinds of pupils. The broadening of interest from strictly academic to social factors in this area of research has made the problem bewilderingly complex. But already we are obtaining evidence that these " structural " effects in classrooms can be of major importance. Raising the proportion of able children in the class improves the performance of the less able ones. The more able children may suffer some inhibition, though this is unclear ; the policy problem is to balance gains and losses. From this line of research we are learning that the cultivation of " talent " is not a simple pedagogical task.

That children choose friends on the basis of academic level is in part an offsetting factor, retarding the spread of stimuli among children with varying competence. But friends are not twins ; there is a linked chain of stimulation. Though pupils are more likely to decide to attend college if their friends plan to do so, others will conclude that if the just-discernibly better fellow is going, why cannot I go ?

CONFLICTING CRITERIA FOR ACADEMIC PROMOTION

There seems to be no western country — excepting possibly Canada and the United States — in which expansion of university enrolments need be accompanied by lower standards of performance. This wager would not be extended to indefinite expansion of enrolments. The unutilised reserves of talent are even larger in most countries at the secondary level.

It is the fact, however, that our criteria of performance for students tend to shift over time, not downward but in breadth. Larger classes diminish the time available for individual teaching and for examinations. There are few grounds for worry about the strictly intellectual qualities of students. We are not equally confident that other qualifications for upper-level positions are being nourished by mass education ; as I have phrased it elsewhere, less often today than formerly are scholars also gentlemen. We are uneasy about students' appreciation of intellectual things, their identification with scholarly traditions, and their respect for the moral norms of the academic world. (One is puzzled by the growing amount of vandalism on books and archives by students who are presumably more qualified than their predecessors for university attendance.)

We must then ask whether it will be desirable to reintroduce non-intellectual criteria in selecting youth for graduation from schools or promotion to a higher school. We have narrowed our criteria to " ability ", in part because that trait is so easy to test reliably. But as graduates come to outnumber the places in the traditional learned occupations, developed societies are having to face some readjustments. Without doubt there is social benefit in staffing the middle-level occupations with individuals having university education. But there is ground also for asserting that individuals who are intellectually qualified for the highest positions need to be selected on character and personality. Such questions will arise also for the intermediate positions as concern about industrial relations becomes more widespread. If the labour market allows them a choice, employers will make increased use of these broader criteria. It is this set of factors that will complicate the efforts to relate educational expansion to forecasts of manpower needs.

But these questions can hardly be discussed at length in the absence of the necessary research. We have been trying to free ourselves from the old prejudices of class. But within the new context of the technological societies we have not yet succeeded in learning to ask the proper questions about combinations of intellectual with other personal attributes for different kinds of roles in society.

SOME POLICY DILEMMAS

Which policies will most stimulate educational aspirations and lead the largest proportion of qualified youth to use the opportunities opened to them is a question that is not profitably discussed in the abstract. The most effective instrumental variables will have to be chosen in each country on the basis of the matrix analysis sketched above. Only a few issues, therefore, will be discussed here. I exclude such pseudo-policies or principles as " no industrial country can have too many educated men " or " expand the number of school places as rapidly as we can afford ". I leave aside discussion of direct manipulation of incentives through bursaries ; either this is a trivial suggestion or it involves economic complexities beyond my competence.

A. *Education and Vertical Mobility*

I have written at length on this question elsewhere, so the topic can be treated here briefly, in two ways : as a substantive problem for empirical inquiry and as a query as to how the public will accommodate to the effects of expanding the educated population.

If the range of educational attainments in a given population is appreciably narrowed, the scope for education to influence mobility selectively will diminish. Schooling can be a major determinant of social position only if education is a variable among the population. Moreoever, as social class and other " extraneous " variables are excluded from affecting educational opportunity, the proportion of individuals experiencing a decrease in social status will grow more rapidly than the proportion rising above the position of the father. As this result comes to be perceived by the population, controversy over educational policy may become more bitter. This is because the protection of elite positions for stupid but schooled individuals will be eliminated ; already there is a steady upward flow of lower-class individuals facilitated by education.

As education becomes more generally available, therefore, we can expect major ideological and political readjustments. A single simplified example can illustrate the point. Individuals have been exhorted to obtain more education with the argument that it will " pay " them to do so. (There really is little appreciation of liberal education outside those circles whose status prospects are rather well assured on non-educational grounds.) The proportion of a generation for whom education can be a means of upward mobility is going to be balanced by a growing proportion who lose out in the vocational competition. That outcome could depress motivation for education. On the other hand, it might intensify and narrow the competition for educational places in the manner observed in Japan.

B. *Bottlenecks versus Sieves*

The dispute about " quantity versus quality " in education is probably not worth discussing. That at least is the conclusion of most educational sociologists and psychologists in the United States where expansion of schools has been greatest. There is a hard kernel of nourishment inside that husk, however.

It has long been known to a few investigators that the successive winnowings of youth in highly selective school systems is in large part factitious. Much educational waste arises by discouragement of youth with the " wrong " combinations of interests or abilities. Locking pupils up in courses of study with little opportunity to move into new curricula is sterile guidance. The number of frustrated and discouraged pupils can be diminished by widening the criteria for allocation and particularly by allowing more individuals to have a run at the programme they desire.

Narrow intellectual stipulations for educational elites clearly are going to be broken open. The relevance of schooling for careers will be improved by broadening our criteria of excellence. Mere academic aptitude is perhaps a poor qualification for business executive, public official, or physician.

The central issue of educational planning is entangled with considerations of this sort. If forward scheduling of graduates by specialty is linked to precise estimates of economic parameters, it will be necessary to face the issue of compulsion. But this is a bizarre outcome. Education was to be expanded because there was a " need " for more trained people but also in order to equalize educational opportunities. But if educational opportunities are to be opened more widely, presumably individuals will become more qualified to choose their education and their occupation. By a curious legerdemain, it now turns out that to make use of the larger output of trained people brought forth by the more abundant opportunities we must restrict choices of curriculum and vocation.

Arbitrary aims for a society planned for rather than by individuals are to be substituted for social goals that presuppose individuals able to choose not only clothes or automobiles but how they will earn a living. If people are in any event to be regimented, we might as well save ourselves the costs of regimenting their educations. After all, if we set aside the non-economic benefits of education, only a comparatively modest expansion of trained men is needed ; virtually all manpower forecasts for needed skills are grossly inflated.

C. *Equity, Efficiency, and Freedom of Choice*

Very few writers have made much effort to disentangle the confused meanings these terms have received by historic accretion and party controversy. I cannot be confident that I have clarified the implications of different connotations of each goal, but it is hoped that some of the complications arising from use of these norms in policy making will be identified.

Equity. If farm children, for example, make up 60 per cent of a total population of children and occupy 60 per cent of the places in a school, we would say there was an equitable distribution. But this is a very crude test, and each of the following four variants of the rule has different implications.

1. An equal amount of education for everyone. No country follows such a rule. And when an educational system approaches this condition (beyond the compulsory age) as for secondary education in the US, qualitative variations begin to be emphasised.
2. Schooling sufficient to bring every child to a given standard. If this norm is formulated weakly, virtually all children can reach the minimum, as with many compulsory attendance laws. Persistence in school beyond that level will then be controlled by other norms that set standards which only a fraction of children will be expected to attain.
3. Education sufficient to permit each person to reach his potential. Only a wealthy society would even consider trying to meet this stipulation, and even then hardly in its full implications. It would entail schooling to the point of " book fatigue " ; after all, nearly every individual has great potentials in some direction : the skill of domestic servants can be vastly improved. Hence, the potentials for the development of which a society is willing to invest become limited by convention, usually the more " academic " sorts of potentials. In all countries, educational policy rests on assumptions, usually unstated, as to which potentials shall be invested in.
4. Continued opportunities for schooling so long as gains in learning per input of teaching match some agreed norm. That norm is usually defined in terms of equivocal " passes " on an examination or the judgment that carrying a large number of children into higher grades will be too costly in relation to their predicted learning. " It just isn't worthwhile to keep them in school any longer. " When this criterion is examined closely, questions arise about the presumed outcomes of school, questions of learning vs. teaching, and questions of choice among various sorts of training.

Efficiency. Whereas equity is a goal in each of its variants, efficiency is a rationality concept : to get the most out of the least, whatever the ends. In its broadest meaning it is thus coterminous with the whole of rational decision theory, but here it is used in more limited ways. The first two criteria below start from the assumption that learning as such is taken as the goal, and any given total of resources invested in education will then be most " efficiently " used when the total aggregate of learning is maximized. The first variant is an alternative expression of the fourth equity criterion.

1. Selection of individuals for further schooling should be based upon how much additional learning can be predicted for one versus another person. The pupil who is most promising in this sense will be the first chosen, and so on to the point at which the assigned resources are all taken up. In terms of how many resources should go into education, we can set a learning-rate cut-off point. It is universally accepted that the number of children who can profit

from a given kind of training diminishes as the level of schooling rises. Some can learn more than others ; the higher skills do not need to be as plentiful as the lower ones. But now it becomes evident that the equity status of the fourth of those criteria is tenuous. Unless, and perhaps even if we define education " academically " this is in fact an efficiency criterion sometimes dressed up in equity guise. High-level people are needed but few have the potentials so we concentrate resources on the talented. But to speak of equity in terms of " talent " is equivocal, with little more intrinsic merit than race, religious orthodoxy, or social class. Moreover, the idea of maximizing learning in a generalized formulation tends to become narrowed to refer to learning that will maximize a man's economic productivity.

2. Priority should be given to those groups or localities where given educational efforts will evoke the largest response in attendance and in demand for additional schooling. This pragmatic criterion relies upon demonstrated aspirations and upon a population's willingness to sacrifice (at least leisure). It takes advantage of the fact that subpopulations displaying the most interest in schooling are likely also to have developed relatively favourable environments for learning among their children and to continue to create extra-school learning opportunities that are supportive of the school's work. As a crude decision rule this one favours subpopulations that are already most developed and violates at least some notions about equity — unless we insert a premise about group " merit ". (To invest resources in searching for the potentially talented raises a related but distinct set of efficiency questions on the policy level.) The criterion becomes more complex if we specify it further to distinguish the agencies responsible for providing the educational resources. At which levels of local performance would expansion of central subsidies evoke the largest response in higher demands for education above what would develop in the absence of such assistance. This criterion is not likely to direct large investments to assist laggard communities until near-universal schooling is in sight, but this way of specifying the policy rule does imply a strategy that partially resolves the conflicts between equity and efficiency norms. The generalized form of the norm tends to be realised by the fact that gradients of interest and of ability to support schooling go together (apart from hardship cases), interest corresponding broadly to the gradients of economic development, to the numbers of jobs requiring schooling, and to the willingness of subpopulations to supplement public with private funds. But local response can also be a clue to where subsidies could elicit a large increment of schooling.
3. A third efficiency criterion is explicitly economic, whereas the two previous ones were not necessarily so : invest in education where the expected ratio of gains in economic output to costs are highest and extend investments so long as the economic benefit/cost ratios exceed ratios in alternative uses of resources. In a free-market situation a crude short-run approximation to this rule tends to hold among families. As a societal planning criterion, however, it requires estimation of public as well as private costs and returns.

> Also, in its conventional formulations, even a socially assessed economic benefit/cost criterion ignores the processes of change and the effects of current investments in education upon future decision alternatives.

Only the second among the efficiency criteria even begins to bring the dynamics of educational and economic developments into focus. On the other hand, demands for schooling can and do sometimes outpace the aggregate development of job opportunities, a circumstance that does not enter into either of the first two criteria except as they may be modified to take it explicitly into account. It is only this third criterion that in fact specifies the margins at which decisions to invest in education or in something else are made. Even the first efficiency criterion was oriented to the allocation of given total resources within education, taking the scale of educational investment as quite arbitrarily established. Unfortunately, the marginal social benefit/cost test is difficult to apply in practice, it requires major overhauling before it can be dynamized, and it is only in part compatible with equity norms.

Finally, any chosen policy raises troublesome questions about compulsion versus freedom of choice in education. Balancing equity against efficiency is easier if one can work within given manpower specifications and shut his eyes to the fact that he is rationing qualified individuals out of the kind of schooling they prefer. Such compulsion can be harmonized with equity only by blatant casuistry. Moreover, restriction on free choice of educational and occupational career can have serious effects upon efficiency through its effects upon motivation. It is only in the more advanced societies that equity can be regarded as essential to, or even consistent with efficiency, but societies at every level need to be aware of the risks of controlling individuals' choices of careers by other than salary structures.

II

SOME DYNAMIC ASPECTS OF INEQUALITY

by
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The function of the paper is to raise certain questions which arise when the social and economic aspects of education are considered during a period of rapid change. Its thesis is that two different underlying assumptions as to the nature of inequality may be discussed in economic and social analysis, and that when this is appreciated, it seems likely that any egalitarian doctrine embodied in a social service like education is unlikely to be operationally feasible so long as the income-distribution is unequal. And, it is held, this source of inequality is probably ineradicable.

Two opposite points of view have customarily been held about the likely dispersion of incomes as GNP per capita rose on average. In the first place evidence has been brought forward to suggest that the extremes of inequality are brought closer together and that there is a greater concentration about the median. The basis for this view would appear to be twofold. One is the nature of modern mass consumption and of industrial, commercial and service employment which requires a population of consumers who tend toward a fairly common average income. The other explanation has to do with the rising educational and skill components of the work force which have changed to erode the gross inequalities which appear in earlier forms of economic development. Thus the view might be held that even without progressive taxation and the development of common consumption through the provision by the state of services like education, health and housing at low or zero cost, there would be a tendency for growing equality to manifest itself. Evidence for this proposition is derived from studies of income distribution in different countries with different political structures and ideologies, but roughly similar levels of income. Despite the tendency to greater equality, however, the trend, both pre- and post-tax is a slow one.

A fundamental part of this analysis is concerned with the success of Keynesian and neo-Keynesian techniques in removing unemployment which, in most industrial civilisations, has been the major source of poverty, either directly, or indirectly through removing the possibility of savings by the members of the labour force exposed to periodic unemployment. According to this view the achievement of full employment, or something near it, would accentuate the tendency towards a reduction of inequalities of incomes.

The other and opposite point of view might be termed the Marxist or quasi-Marxist point of view. This, in its crudest form, is the proposition that, as the productive power of industrial society increases the process of exploitation leads to the accumulation of ever greater wealth in the hands of the few and reduces relatively (and in the crudest forms absolutely) the incomes of the proletariat. This view is not only widely held in the central planned economies but is occasionally used as a model for the poorer developing nations. Until Keynesian full employment policies, it also was the basis of a substantial amount of work by statisticians in the West (e.g. " The Economics of Inheritance " by Josiah Wedgewood). According to this view the progress of inequality during the development of industrialisation is a continuous one which can be controlled or modified only by constant intervention on the part of the authorities who seek a greater degree of equality than would arise spontaneously. In this view any radical move to greater equality must imply a fundamental social change especially in the pattern of ownership.

It is in this broader context that the sociological measurement of inequality of access to, and use of the social services must be examined. Studies have shown that the use of completely free services such as the National Health Service in Great Britain is affected by the distribution of incomes and the class distribution of the population. Similarly a multitude of studies have confirmed this for education. Some authorities (notably J.W.B. Douglas)[1] have held that although the average level of education in all groups has risen during the past thirty years, the distance between the top and the bottom remains as great as it was. It is, of course, a matter of considerable doubt whether the indices of inequality derived from social survey data, and based essentially upon assigning occupations to different social classes, are measuring the same thing as the income distribution figures which are used by economists. In all this work, the process of approximation may well lead to a lack of precision which in turn may lead to a misjudgment of the evidence which is available from a number of different sources.

Nevertheless, a possible interpretation of the evidence would seem to be that the process of collective provision of social services (and particularly of education) has not necessarily accentuated whatever trends there may be in the economy for the distribution of incomes before tax to become more equal. It might be argued that the social services were not proposed to accelerate any trend to greater equality of incomes ; they are designed to service an industrial society. Thus one possible interpretation of the measures designed to accelerate greater equality of access to, and use of, educational facilities, would be that they were to be used as machinery for removing some of the weaknesses in the equipment of entrants to the labour force which are presently responsible for the degree of inequality.

This would neglect the area of inequality (which is a large one) based upon the extreme variations in the ownership of assets. In much current thought in the United States, for instance, correlations between unemployment and low educational levels are held to demonstrate that in an era of advancing technology the latter is the cause of the former. Therefore, a concentration of educational effort on the backward social groups is held to be a necessary condition of the reduction of serious unemployment (many economists would hold that this view is based upon an analytical mistake in

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[1] J.W.B. Douglas, *The Home and the School*, 1964.

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the causation of unemployment but the point that is being made is not concerned with that). Similarly the distribution of incomes measured geographically tends to be correlated with the distribution of access to, and use of social facilities, like education. Here again a popular remedy for the original imbalance is held to be the redistribution of social welfare facilities.

These examples have been chosen in order to show that underlying a considerable amount of the social analysis of inequality in education are two analytically distinct theories. If we reject the Marxist one, we are left with the one which is concerned with the trend in the distribution of incomes in the economy and the assumption is that normal social welfare measures would certainly not tend to make this trend less fast (if it were in the direction of greater equality), and that if it were in the direction of greater inequality — as in the case of unemployment arising from technological change or geographical factors such as the declining rural areas — the social facilities like education would be used as a mild corrective. It would seem to follow from this type of analysis that it is highly improbable that the degree of inequality in income and wealth could markedly differ from the degree of access to social welfare facilities, or to put in another way, no nation-wide social service can easily be more egalitarian than the income distribution. Thus, even if a wholly egalitarian ethic prevailed in the public sector — supposing for example that retirement pensions paid to elderly citizens were uniform, the provision of private facilities would always tend to restore the inequality prevailing in the economy as a whole, as in the case of the development of private superannuation schemes, analysed by Titmuss[1] and others. In the case of education there is considerable evidence to suggest that the inherent advantages given to students, particularly in their early years, by a favourable human environment (possibly aided by genetic factors) will certainly always be likely to lead to the greater academic success of those children coming from high-income homes, however passionately egalitarian the administration of education may be.

Another underlying hypothesis which might be discerned in discussions of educational inequality is a *legal* one, derived from the fundamental egalitarian concept of one man, one vote. The principle here is that if education is provided free by the community then every child must have equal access to it and logically it seems it will follow that for each child, ultimately, equal education in some sense would be the aim. Indeed this aim is often quite specifically built into the legislation or even the constitution of the countries that have embraced it. In this case sociological analysis which is concerned with deviation from the average would tend to adopt far more radical assumptions as to the measures which could be adopted to achieve the end. It would be my own view that such an assumption could be little more than an ultimate ethical aspiration because the socio-economic tendencies towards a prevailing income distribution seem to be so strong. The doctrine of the Pareto-curve is a very powerful one ; that incomes tend to a distribution along a Pareto-curve, come what may.

Underlying the view that the distribution of incomes both pre- and post-tax can at best be altered only very slowly in a more egalitarian direction, there is a considerable amount of economic and social experience. In the first place, the redistribution of wealth can only be affected gradually as new wealth accumulates in the hands of first generation savers, and measures to reduce the assets of people with considerable fortunes are likely, it is held, to have a serious effect on the rate of saving. Secondly, the distribution of earned incomes is based upon the contribution of members of the labour force to the economy tempered by monopolistic factors. Even if the intellectual basis of the marginal productivity doctrine which underlies this statement is rejected, it would be widely acknowledged that income differentials between and within occupational groups are difficult to alter and if, as some people have asserted, they rely chiefly upon custom, then the rate of change that might be expected is certainly not high. Thirdly, the human capital embodied in the labour force can only be altered slowly by the process of education and training and it is known that measures to increase the uptake of education and training among the underprivileged groups can only operate in the very long run. Consequently, for these fundamental reasons, and others, it would seem unwise to expect rapid steps in the direction of greater equality in education.

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[1] Titmuss, *Income Distribution and Social Change,* 1962.

Above all from the point of view of the economic and social historian the development of new sources of inequality is a continuous process. Inasmuch as incomes tend to be more derived from work now than formerly, the position of people without easy access to the labour market is made relatively more difficult — this applies especially to women. Inasmuch as the greatest opportunities fall to those with a highly trained intelligence, inequalities may take a form of discrimination based on I.Q. as Dr. Young has argued. The apparent tendency for the incomes of richer areas to pull away from poorer areas may accentuate educational inequalities within a country and will certainly do so between countries. My plea in this brief paper would, therefore, be for a more close analysis of inequality in a broader socio-economic context.

III

THE EFFECT OF SCHOOL STRUCTURE UPON UTILIZATION OF ABILITY : THE CASE OF SWEDEN AND SOME INTERNATIONAL COMPARISONS

by

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As a rule, the respective merits and drawbacks of comprehensive and selective school structures have been discussed with reference to the end products they turn out. In other words, comparisons are restricted to the quality of senior-class students in both types of structures. Most of the evaluative comparisons have been limited to intellectual achievements ; a few, like Miller (1961) include other educational outcomes. Critics of the comprehensive secondary school both in the United States and Europe have called attention to two attributes of the traditional European academic school that have enabled it to supply the universities with young people on the average of outstanding intellectual talent : (*i*) their students are largely selected on the basis of scholastic ability to begin with ; (*ii*) they have been in a position to screen out thoroughly weaker students during the course of their schooling. There can be no doubt that the end products of academic schools on the average are superior to the graduates of comparable schools in, say, the US whose high schools and junior colleges can be regarded at least as the age equivalents of Europe's *Realschule* and *Gymnasium* respectively.

When European and American university undergraduates are compared in terms of intellectual standards, it should be borne in mind that in many cases 3-6 per cent of the age groups in Europe are being compared with about 25-35 per cent in the US. Even if the schools which cater for corresponding age levels were identical in respect of curricula, teaching staff and plant, the comparisons in terms of average achievements would inevitably redound to the disadvantage of American schools were it solely confined to the book-learning attainments of students.

Selectivity is an important element in European education, and applies both to transfers from one level to another and to the pursuit of studies within a given level. In West Germany, selection for the *Gymnasium* takes place at the age of ten. In certain provinces (" Laender ") less than one-fourth of those admitted take the final examination (*Abitur*), in spite of severe competitive selection from the beginning (Undeutsch 1955). In France, between

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40 and 50 per cent fail in the corresponding examination (*Baccalaureat*), in spite of the screening that has occurred up to and during the lycée stage (Husén 1960). In Britain, the committee appointed by the Ministry of Education to look into grammar-school failures noted that more than one-third of the students never got as far as a final certificate, in spite of their having been screened on admission by means of the 11-plus examinations (HMSO 1954).

In Sweden, the incidence of grade-repeating and failures was studied by the 1957 Parliamentary School Committee following up a 20 per cent representative sample of the enrolment during a given year. Half the intake of the Realskola, in spite of competitive selection, failed to pass the final examination after 4 or 5 years in due time. One-third repeated at least one grade. (Orring 1959.)

In the light of these data, we might well ask : how is this screening process supposed to function ? This question has relevance both for selection from one level to another and with reference to grade-repeating and failures. It stands to reason that a selected and screened-out student body is more homogeneous in regard to scholastic ability, and as such is easier for the teacher to deal with. This in turn makes it possible to attain a higher standard of achievement. However, the " efficiency " of a school system must be assessed within the compass of a " strategy, that is, a total evaluation in which all student categories are included. This means that we cannot solely consider that part of the educational raw material which emerges in fully processed shape in accordance with a certain standard model. We must also take into account how much of the raw material remains either unprocessed or never gets beyond the semi-manufactured stage.

In a few words, the issue that we propose to shed light on in the remainder of this paper may be formulated thus : *What price has to be paid for the high standard achieved by a few ?*

The good results achieved by the selective, academic school are considered to be due to its policy of selection on the basis of ability and motivation. Those who are not selected or who are screened out are considered to be either less gifted or less industrious than their classmates. It is assumed as axiomatic that the pupils are competing on equal terms, i.e. that everyone is offered equal opportunity. Ability and energy alone are the determinants, not social background. If social handicaps are present, they are to be removed by financial aids to study of one kind or another.

To believe that the system functions as indicated above is to fall victim to an illusion. Ability and school achievements admittedly carry great weight, but they are far from being the sole determinants of study careers. In competitive selection wide latitude is allowed to social factors, perhaps not first and foremost the economic status of parents, but rather their own level of education and social aspirations : this turns out to be surprisingly true even in societies like the Swedish where economically-based class differences are fairly small.

I shall illustrate my thesis by drawing on the selection made in Stockholm in 1955, p. 56 (Fig. 1) for enrolment in secondary academic schools the last year in which transfer from the fourth grade of the elementary school took place. (Cf. Svensson 1962.) But before presenting this material I shall briefly cite some earlier studies on the same subject.

A large body of research has shown that pupils from social class 3 (consisting for the most part of pupils from working class families) or from certain categories of social class 2 (for instance, agricultural families) are greatly under-represented in the secondary academic school[1]. This is the case in all countries of Europe, as well as in the United States. In France, for example, until recently only one-eighth of the student population came from working class homes, which represented two-thirds of the nation's families. When Premier Kruschev announced the new educational reform in a speach before the Supreme Soviet, he said that 60 per cent of the enrolment in Moscow's upper-level schools was recruited from the intelligentsia and bureaucracy, and only 40 per cent from the homes of manual workers and farmers (Conant 1959).

A study of the social-class origins of Swedish undergraduates made by Moberg (1951), disclosed that roughly the same class proportions had existed from 1910 to 1943 (Table 1).

TABLE 1. MALE UNDERGRADUATES BY SOCIAL CLASS

SOCIAL CLASS	1910	1920	1930	1937	1943	1960
1	35	35	37	36	32	31
2	55	54	51	52	56	51
3	9	10	11	9	10	14
Unknown	1	1	1	3	2	4

Boalt (1947) investigated recruitment in 1936 to Stockholm academic schools which were based on four years in the elementary school. A similar study pertaining to Stockholm, Gothenburg and Malmö in 1938 was made by the 1940 School Committee (1944). The aforementioned 1955 data, processed at the School of Education, determined social-class affiliation for the pupils of Stockholm's North Side and West Side who in that year transferred to a higher school from grade 4. The results of this comparison are set out in Table 2.

TABLE 2. SOCIAL-CLASS DISTRIBUTION OF PUPILS TRANSFERRING FROM GRADE 4 TO A HIGHER SCHOOL

SOCIAL CLASS	STOCKHOLM 1936	STOCKHOLM 1938 GOTHENBURG MALMÖ	STOCKHOLM 1955
1	25	20	34
2	57	61	46
3	18	19	20

The same picture emerges from both tables : over a long period of economic levelling-out conditions of recruitment have changed only slightly. It might well be asked : Does the observed social bias derive from the selection mechanisms themselves, so that pupils from a lower social class are handicapped in competitive selection from one level to another ? This problem was illuminated in Great Britain by J.E. Floud *et al.* in " Social Class and Educational Opportunity " (1956). In Sweden Boalt (1947) has worked out a technique for estimating the degree of social handicap which asserts itself in selection from a lower to higher school type and in screening within a school type. Boalt defined social handicap as the relationship observable between selection (or screening) and social factors, with scholastic ability held constant. His findings are summarized in Table 3.

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[1] The social-class categorization employed here is the one originally developed for the Swedish Election Statistics. The three social groups could roughly be labelled upper, middle, and lower class.

TABLE 3. SOCIAL HANDICAP IN SELECTION FOR HIGHER SCHOOL AND IN SCREENING WITHIN SCHOOL (HANDICAP DEFINED AS PARTIAL CORRELATION OF SELECTION AND SCREENING WITH SOCIAL FACTOR) (AFTER BOALT 1947)

STAGE	SOCIAL CLASS OF PARENTS	TAXED INCOME OF PARENTS
Selection/non-selection for realskola (lower secondary acad. school)	+ 0.57	+ 0.25
Screening in realskola	+ 0.17	+ 0.28
Selection/non-selection for gymnasium (upper secondary acad. school)	+ 0.47	+ 0.45
Screening in gymnasium	+ 0.15	+ 0.07

The degree of social handicap tends to be greater when all the factors underlying the concept of " social class " are taken into account than when economic background alone is considered.

Social-class origins were also explored by the above-mentioned committee of the British Ministry of Education which had been appointed to investigate failures in the grammar school. Of those pupils in the grammar school who had been selected after their performance in the 11-plus examination, 37 per cent could be regarded as failure on either of three counts : they had not completed the five grades, not received any certificate, or had received a certificate with less than three passes. The pupils were classified with reference to scores on entrance examinations and their social background. Failures are shown in Table 4 as percentages. On the basis of equivalent scores in the 11-plus examinations we can observe that a much higher number of failures occurred among pupils of lower social class. The most striking datum is that failures were about five times more common for pupils coming from unskilled workers' homes among the *top third of entrance examination scores* than for pupils coming from homes which by and large correspond to social class 1.

TABLE 4. FAILURE RATE (IN PER CENT) AMONG BRITISH GRAMMAR SCHOOL PUPILS, BY SOCIAL CLASS AND ENTRANCE QUALIFICATIONS

PATERNAL STATUS	ENTRANCE STANDING		
	BEST THIRD	MIDDLE THIRD	LOWEST THIRD
Professional and managerial	10	25	34
Clerical	19	32	42
Semiskilled	38	58	62
Unskilled	54	62	76

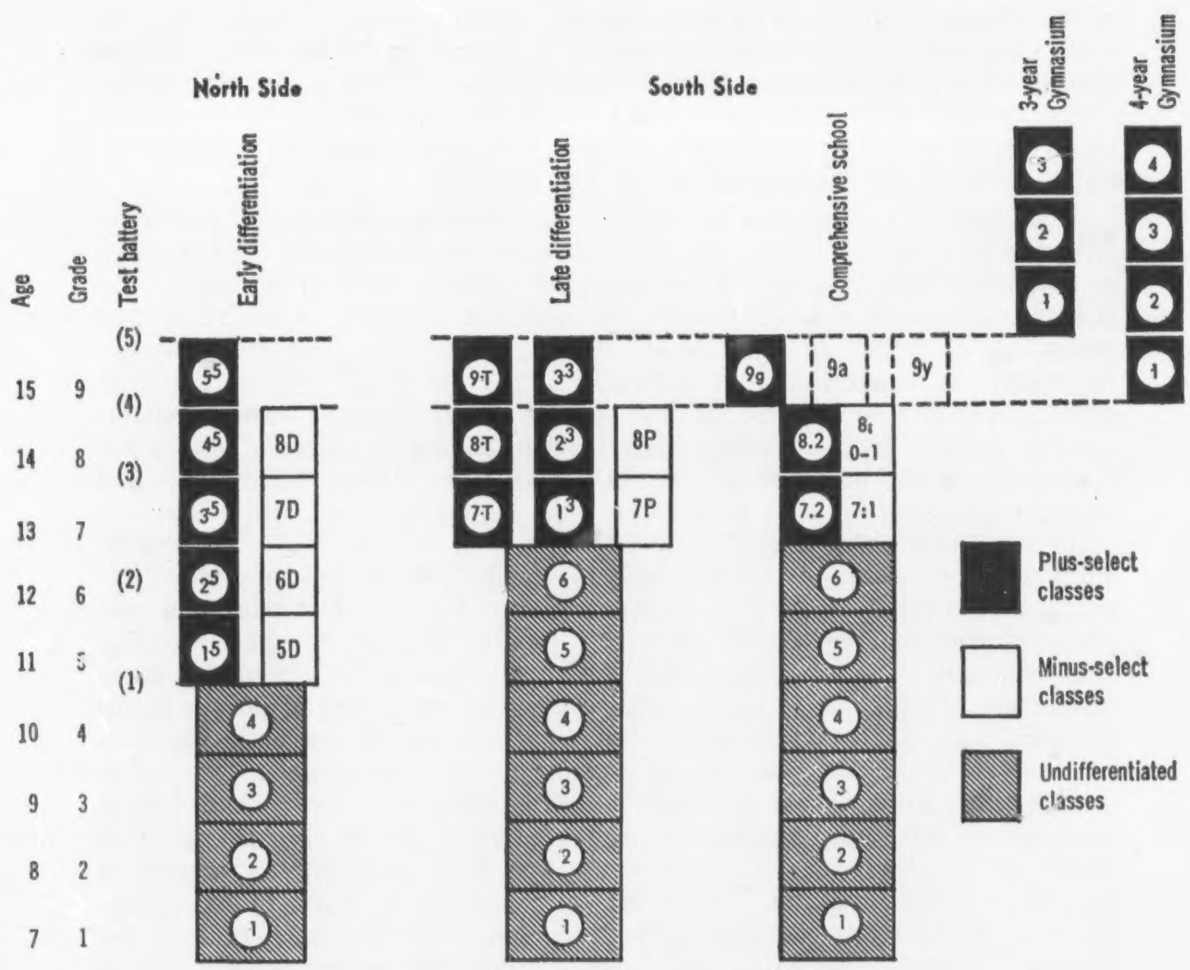
In recent years a large body of evidence has been collected in Sweden which illustrates the relation between social class and screening by means of grade-repeating and/or dropout during a specific stage of education. A meticulous study has been carried out by J. Blomqvist (1958) who confined himself to one big State secondary school (Solna). When comparing grade-repeaters with those who had moved on up through the grades in normal order, he found that the home's cultural standard ranked with scholastic ability as a crucial determinant of success in school.

As part of its attempts to evaluate the learning outcomes of the four-year and five-year *realskola,* the 1940 Educational Committee (1944) made an extensive study of dropouts and grade-repeating in both school types. As already mentioned, the Committee followed the progress of an entire age group for a period of eight years, beginning with the first grade in the *realskola.* It was found that only about half the pupils passed the final examination and/or entered the first year of the *gymnasium* without repeating any grades : in other words, they reached the study objective within the period envisioned by the instructional programme. When pupils who had repeated grades for one or more years were included, it was found that less than two-thirds reached the study objective (*op. cit.,* p. 325). A similar study was carried out by Orring (1959) for the 1957 School Committee. Orring sampled one-fifth of the admission quotas for a certain year and was provided with data on the progress of pupils up through the grades. The study objective was attained within the regular period by about the same proportion of pupils as 17 years earlier, when the proportion of an age group admitted had been much lower. More than one-fifth of pupils in the five-year *realskola* did not graduate or transfer to the *gymnasium* : the corresponding proportion for the four-year *realskola* was almost one-third. Orring also related scholastic progress to marks received in the fourth and sixth grades of elementary school, since these had been employed as criteria of admission to the *realskola.* He found the incidence of dropouts and grade-repeating to correlate significantly with the composite marks at time of admission ; however, dropouts were also considerable among pupils having high aggregate marks.

These amounted to 10 per cent even among pupils at the highest level (a little " a " average).

The Institute of Educational Research at the Stockholm School of Education supplemented Orring's data with the social-class background of pupils. In Figures 2 and 3 we have elucidated the relation between dropouts and social-class. Each curve shows the number of pupils in a certain grade who reached this level without falling behind. It will be noted from Figure 2 that about 60 per cent of the pupils from social class 1 reached the final grade in the five-year *realskola* without delays, as compared with about 48 per cent of the pupils from social class 3. Similar social-class differences are discernible for the four-year *realskola.* We may thus observe that the mechanism of social selection, which Boalt (1947) was able to establish for one age group of pupils in Stockholm, applies to Sweden as a whole. The curves denote a larger difference between social classes 1 and 2 than between 2 and 3. When comparisons are made by sex, we find social class differences to be less pronounced for boys than for girls. Boys from the two lowest social classes forge their way ahead with about equal facility, whereas considerable differences occur for the girls.

FIGURE 1


North Side
South Side
Age
Grade
Test battery
Early differentiation
Late differentiation
Comprehensive school
3-year Gymnasium
4-year Gymnasium
(5)
(4)
(3)
(2)
(1)
15 9
14 8
13 7
12 6
11 5
10 4
9 3
8 2
7 1
8D
7D
6D
5D
9·T
8·T
7·T
8P
7P
9g
9a
9y
8.2
8₁ 0–1
7.2
7:1
Plus-select classes
Minus-select classes
Undifferentiated classes

School structure on the North and South Side respectively in Stockholm (after Svensson, 1962).

Research into the effects of organizational differentiation, conducted by the Institute of Educational Research at the Stockholm School of Education on behalf of the 1957 School Committee (Svensson 1962), made it possible to study the relation between social class and comparative selection for a higher school. This particular study bore reference to 5.960 11 year old pupils of Stockholm's North and West Side, who in the spring of 1955 were permitted to compete for entry into the academic secondary school. The schools involved supplied information on marks and occupation of parent or guardian. Pupils were given a group intelligence test as well as the standard battery of achievement tests at the end of the fourth grade. We thereby obtained three different measures of their ability : marks, achievement-test scores, and intelligence-test scores. These measures could then be related to outcomes of competitive selection considered in terms of social-class origins. With ability as shown by the three measures held constant, we shall proceed to show how applicants and rejects are distributed by social class. Complete data were available for 5,366 pupils.

To begin with, it will be noted that those admitted to the academic school show quite a different social-class distribution from those who continued in the fifth grade of elementary school.

Since, as the table shows, a much larger proportion of pupils are admitted from social class 1 than from 3, it might be concluded that class 1 also has the larger proportion of rejected applicants. But that is not the case.

FIGURE 2

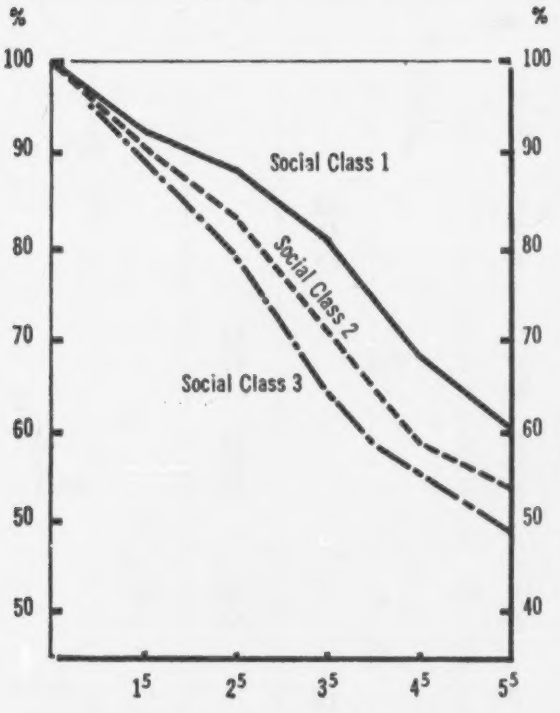


FIGURE 3

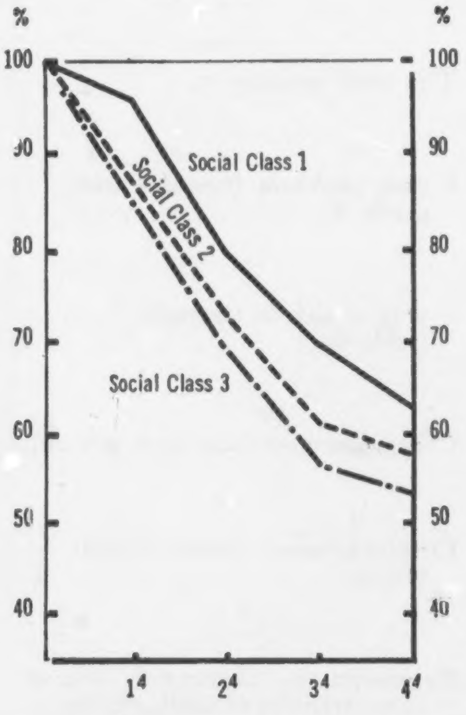


TABLE 5. PUPILS ADMITTED TO HIGHER SCHOOL OR CONTINUING IN ELEMENTARY SCHOOL AFTER GRADE 4, BY SOCIAL CLASS. 1955-56 ACADEMIC YEAR. (NORTH AND WEST SIDE OF STOCKHOLM. NUMBER OF PUPILS, 5.366.) IN PER CENT

SOCIAL CLASS	PUPILS CONTINUING IN ELEMENTARY SCHOOL	PUPILS ADMITTED TO ACAD. SECONDARY SCHOOL
1	10.4	34.3
2	37.6	46.2
3	52.0	19.5
Total	100.0	100.0

The proportion of rejects in each of the three social classes was :

Social class	1	2	3
Rejects in per cent	31.91	44.2	42.7

Data pertaining to the social class composition of the selective and comprehensive system respectively on various grade levels are given in Table 6.

TABLE 6. SOCIAL CLASS COMPOSITION AT SUCCESSIVE GRADE LEVELS IN VARIOUS SELECTIVE SYSTEMS AS COMPARED WITH VARIOUS COMPREHENSIVE ONES

COMPREHENSIVE ON THE SOUTH SIDE AND DUAL SYSTEM ON NORTH SIDE

	SOCIAL CLASS	GRADE 4	GRADE 6	GRADE 7	GRADE 8	GRADE 9
The total population	1	15				
	2	39				
	3	46				
5 year *realskola* (transfer from grade 4)	1		35			
	2		46			
	3		19			
3 year *realskola* (transfer from grade 6)	1			11		
	2			49		
	3			46		
Comprehensive (academic stream)	1			12		15
	2			51		43
	3			37		41
Comprehensive (non-academic stream)	1			4	2	
	2			30	28	
	3			66	70	
Remnants in elementary school (after transfer of acad. pupils)	1		10	7	4	
	2		38	31	31	
	3		52	62	65	

In the following we shall venture to elucidate the mechanisms that might underlie this handicap for class 3 applicants.

Theory says that a competitive selection shall be made solely on the basis of ability. Among the criteria set up for this purpose are " intelligence tests ", many of which are purposely constructed to measure scholastic ability. Their validity is established by collating test scores with the tested pupils' school marks. In the Stockholm study, scores in a group intelligence test were drawn upon to divide the pupils into nine ability groups. The top four per cent were put in group 9, the next best seven per cent in group 8, and so on. Group 5 includes pupils who cluster round the average, while other groups fall below the average. In Table 7 the number of applicants to higher schools are distributed by social-class affiliation among their ability levels. Figures are given as percentages, i.e. they show the proportion of pupils from different social classes but of the same ability level who applied for admission.

Table 7. NUMBER OF APPLICANTS FOR HIGHER SCHOOL AS PERCENTAGES OF EACH SOCIAL CLASS, WITH PUPILS DISTRIBUTED AMONG DIFFERENT ABILITY LEVELS. (POPULATION DERIVES FROM NORTH AND WEST SIDE OF STOCKHOLM IN SPRING TERM OF 1955. ABILITY LEVELS GROUPED SO THAT TOP FOUR PER CENT BELONG TO GROUP 9, THE NEXT SEVEN PER CENT TO GROUP 8, ETC.)

SOCIAL CLASS	ABILITY LEVEL (ACCORDING TO INTELLIGENCE TEST)								
	9	8	7	6	5	4	3	2	1
1...........	87	89	82	82	70	58	47	21	14
2...........	85	77	74	59	47	36	20	13	7
3...........	66	72	45	40	24	18	8	7	5

It will be noted that there were fewer applicants at all ability levels from social-class 3 than from 1 and 2. However, this difference varies with ability level in that pupils of average or sub-average ability from social-class 1 apply about three times as often for admission, whereas among the 11 per cent who scored highest on the test the number of applications from class 1 pupils slightly exceeds that of the other classes. We thus see that the very intention of applying for admission correlates significantly not only with the pupil's ability but also with his social background.

With the facts shown by Table 7 in mind, we might expect a relatively higher number of rejected applicants from social classes 1 and 2 than from 3, since it could be reasonably assumed that the larger number of applicants from the first two classes (and class 1 in particular) would contain more pupils who were less able and less qualified for school studies. But as Table 8 shows, the number of rejects tends to be larger in social class 3, in spite of the much lower incidence of applications. This tendency is more pronounced among the most able pupils than for those who cluster round the average. We may accordingly say that social handicap is operative not only in buiding up the level of aspiration, but also when this aspiration is translated into action, i.e. when pupils from the cultural environments represented in social-class 3 apply for a higher academic education.

Table 8. NUMBER OF REJECTED APPLICANTS FOR HIGHER SCHOOL IN RELATION TO NUMBER OF APPLICANTS FROM EACH SOCIAL CLASS, WITH PUPILS DISTRIBUTED AMONG ABILITY LEVELS AS IN TABLE 7

SOCIAL CLASS	ABILITY LEVEL (ACCORDING TO INTELLIGENCE TEST)								
	9	8	7	6	5	4	3	2	1
1...........	6	20	18	36	52	69	69	(80)	(100)
2...........	6	23	33	50	60	68	79	(100)	(75)
3...........	13	30	31	43	57	61	82	(54)	(100)

At this point a couple of objections can be raised : first, an intelligence test does not measure factors relevant for scholastic ability, or at all events measures these only incompletely ; second, tests of this kind favour certain groups of pupils. The latter objection is based on the observation that an ability test tends to discriminate against pupils from a lower social class (cf. e.g. Eells *et al.* 1953). This suggests that the tendencies toward social handicap we noted above for selection to a higher school would have been even more pronounced if we had been able to use a more " culture-free " intelligence test, and as such a fairer one. The second of the two objections may therefore be said to reinforce rather than weaken our conclusions on social handicap. In answer to the first objection, the Stockholm study did not exclusively rely on the intelligence test but could also draw on the results of standard achievement tests given in mathematics and Swedish. On the basis of composite scores achieved in eight tests, pupils were classified at nine ability levels according to the same procedure as above. Lastly, we had access to school marks, which of course comprise the instrument whose use is held to permit the making of a fair selection.

In Table 9 we have set down the proportion of pupils from each social class, distributed among ability levels as shown by the eight achievement tests, who did *not* apply for admission to a higher school. It should be borne in mind when interpreting the results that standard tests serve the teacher as " calibrating instruments ", whose readings give him an idea of how his class stands in relation to a nationally representative group. The level of marks is adjusted with reference to the outcome of such a comparison. This means that the tests do not affect the marking of the individual pupil in principle, but do so indirectly by virtue of the pupil's standing in the class.

TABLE 9. NUMBER OF NON-APPLICANTS TO A HIGHER SCHOOL FROM DIFFERENT SOCIAL CLASSES, WITH PUPILS DISTRIBUTED BY ABILITY LEVEL ACCORDING TO INTELLIGENCE TEST

SOCIAL CLASS	ABILITY LEVEL (ACCORDING TO ACHIEVEMENT TESTS)								
	9	8	7	6	5	4	3	2	1
1...........	9	10	12	26	42	60	56	100	100
2...........	12	14	25	34	57	80	90	94	97
3...........	21	26	34	58	79	91	98	99	98

If we take the 23 per cent of pupils who scored highest on the tests (ability levels 9, 8 and 7), it will be noted that applications from social class 1 exceed those from 3 by between two and three times. Thus when achievement tests are used as measure of ability, the resulting picture is just about the same as when ability classification was based on intelligence tests. Here again it would be interesting to see which proportions of applicants from different social classes were rejected. Our findings are set down in Table 10.

By contrast with our findings when the intelligence test was employed as a measure of ability, the social classes do not differ so very much from one another with reference to number of rejected applicants. Once again a greater number of rejects might have been expected in social classes 1 and 2, since a much larger proportion of pupils from them at corresponding ability levels applied for admission. Why, then, the different outcome when achievement tests replace the intelligence test as measures of ability ? Several explanations can be advanced. To begin with, admissions to the academic school are based on marks. Since these show a much higher degree of correlation with standard achievement tests than with the intelligence test, it automatically follows that there is greater resemblance between the social classes with regard to rejection of pupils at a certain achievement level, as indicated by the tests. No partiality was shown along social-class lines when applications were passed upon. Admissions were made on objective grounds, i.e. on the basis of marks earned by pupils. An element of social handicap comes in, favoring pupils from higher and better-educated social strata, when it is a question of converting " innate ability " into scholastic achievements as defined by marks. We cannot elaborate on how this mechanism has operated in the pupil population under review, but have sought to point out that is exists.

TABLE 10. NUMBER OF REJECTED APPLICANTS FROM DIFFERENT SOCIAL CLASSES AND AT DIFFERENT ABILITY LEVELS. SCORES ON STANDARD ACHIEVEMENT TESTS USED AS MEASURES OF ABILITY

SOCIAL CLASS	ABILITY LEVEL (ACCORDING TO ACHIEVEMENT TESTS)								
	9	8	7	6	5	4	3	2	1
1...........	—	7	19	53	83	93	(100)	—	—
2...........	—	9	28	54	85	93	(81)	(75)	(100)
3...........	2	5	28	52	81	77	(75)	(50)	(100)

Lastly, marks received in grade 4 were used as a measure of ability. These marks were the basis for decisions on admission to a higher school. In Table 11 the number of applicants at each level of ability according to total school marks are shown. Here we have included only ability groups 4 - 9, i.e. those with an aggregate mark of 11.0 or more. Pursuant to regulations, admission was not granted to pupils having an aggregate mark lower than 13.5, which on our nine-point scale corresponds to the lower limit for group 5.

TABLE 11. NUMBER OF APPLICANTS TO A HIGHER SCHOOL FROM DIFFERENT SOCIAL CLASSES, WITH PUPILS DISTRIBUTED BY ABILITY LEVEL ACCORDING TO MARKS RECEIVED IN GRADE 4

SOCIAL CLASS	ABILITY LEVEL (ACCORDING TO MARKS)					
	9	8	7	6	5	4
1	92	94	88	84	53	32
2	95	92	90	69	35	14
3	89	87	87	51	14	3

Our previous observation, that fewer pupils of comparable ability levels apply for admission from social class 3 than from the two other classes, is further confirmed by Table 10. Inter-class difference is admittedly slight in respect of pupils with high marks, but is significant in regard to pupils having average or sub-average marks. We find that class differences in terms of applications to a higher school are far less when marks are employed as ability measures instead of tests. This is to be expected, since school marks are " loaded " to a greater extent, not only with intellectual ability, but also with social background, than is true of intelligence or achievement tests. In other words, the pupil coming from a more privileged environment reaps a bigger " dividend " in marks from his intellectual qualifications than does his less privileged coeval.

The present study has confined itself to consideration of one problem in the large problem-complex underlying differentiation : that is, the price paid for early selection of a few who are brought towards a high intellectual standard by means of successive screening. The advocates of early organizational differentiation are clearly right in contending that those pupils who have run the complete procedure of selection and screening attain a much higher level of achievement on the average than their age-mates in the comprehensive system. At the same time, however, important items on the debit side of this system have been more or less ignored. One such item is the high percentage of pupils screened out after they have been selected or held back as grade-repeaters. Another debit considered even less often, concerns the social handicaps which assert themselves in a selective system, especially when selection takes place at an early age. An attempt has been made here to assess the significance of these handicaps. It was found that one consequence of the system is to deny many pupils from the lowest social class the education enjoyed by their coevals of comparable academic ability who come from more privileged environments. Finally, grade-repeating and failures act as social handicaps. The Swedish findings suggest, as have similar studies made in the United Kingdom and other countries, that grade-repeating and failures are interwoven with social-class factors.

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IV

THE CLIENTELE OF COMPREHENSIVE SECONDARY SCHOOLS IN THE UNITED STATES

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Comprehensive secondary schools are a subject of major interest in many nations today. They are under intensive discussion all over Europe, where secondary schools have traditionally provided specialized training to rather narrow segments of the youthful population. Comprehensive schools, open to all, represent a radical break from this tradition, and one whose consequences are difficult to foresee. In the following pages, some recent observations will be given of how a comprehensive secondary school system works in the one society where it has been in operation for a relatively long time span — the United States.

The material deals with one side of a comprehensive school system : the number and the social composition of the youth it serves. The analysis is inspired by the obvious significance that attaches to the question of how many youths receive a complete secondary education under a system ostensibly open to all.

The data are organized in the light of two decisive institutional features of the American secondary school system. The first is the set of compulsory school attendance laws in the several states defining the obligations of youth to remain in school a specified number of years. Contrary to commonly held beliefs, no American state requires that all young people complete secondary school. While state laws vary, it is correct to say that the great majority of American youth are free to leave school, without requiring permission to do so, on their sixteenth birthday. Under normal progression through the school grades, they would then be midway through their secondary (high) school career. But even if they are a year or two behind normal progression, they may leave freely at the age of sixteen, since all but a few states require no more than completion of the eight grades of primary school[1]. So, the legal framework of participation by youth in secondary education in the United States is *permissive,* rather than *compulsory*.

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[1] Forty states require attendance until the age of sixteen, two until the age of fifteen, one to seventeen, four to eighteen, and one state specifies no age limit. See Office of Education, *Curriculum Responsibilities of State Departments of Education* (US Government Printing Office, 1958), Table 1, pages 6-7, which summarizes state statutes as of December 1955.

The second significant feature is the extraordinary geographical spread of secondary schools in the United States. There is virtually no neighbourhood, no village, no cluster of houses in unincorporated areas, lacking a high school. In the mid-1950's, no less than twenty-five thousand public secondary schools served the youth of the nation. Roughly one-third of the schools were located in the populous urban communities, while the other two-thirds were located in rural areas. The proportion of pupils, however, was distributed in reverse fashion : about two-thirds attended urban high schools, only one-third rural schools[1]. American youth, perhaps with rare exceptions, live within easy reach of a secondary school, even if they live far from urban centers.

Under these general conditions, neither the legal code nor the exigencies of residence exclude youth from the status of secondary school pupil. On the other hand, youth are more permitted than obliged to complete a high school education. The institutional framework contains a good deal of free play, and it is of value to observe just how youth come to terms with the freedom allowed by the system.

The holding power of secondary schools

We begin with a historical summary of the number of youth completing specified grades in school in recent decades. The Office of Education has constructed a valuable educational " life table ", indicating the chances of remaining in school in successive grades through entrance into college[2]. The table is synthetic ; that is, it was constructed by comparing the enrollment in a given grade in one year with the enrollment in the next grade the following year — rather than by following the same students as they moved through the grades. That there is a difference in the results of these two procedures results from the fact that all pupils do not progress through school at the same speed[3]. This in itself would have little effect if unduly slow or rapid promotion involved constant proportions of successive age cohorts, and if the total number of children remained about the same from year to year (i.e., if there were no noticeable trends in birth rates). Since neither of these conditions is found, the results of the synthetic method of estimating educational life chances are only approximate. The table covers a period of about a generation. It begins with the fifth-grade pupils of 1924, and ends with the college entrants of 1956. From this table, the chances of entering the ninth grade, of entering and completing the twelfth grade, and of entering college, are reported below. All figures are expressed as per thousand fifth graders.

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[1] The estimates are based on information compiled from the *Biennial Survey of Education in the United States*, 1954-1956.

[2] Office of Education, *Statistical Summary of Education* : 1955-1956, Table 6, page 13.

[3] The amount of variation in the rate of progress through the school grades is suggested by the findings reported in Eleanor H. Bernert, *America's Children*. In 1950, about one million children, or five per cent of those between eight and eighteen years old who were in school, were at least one grade ahead of the normal grade for their age. Over four million were below the expected grade. Of these, a number corresponding to almost twelve per cent of all school children, were retarded by one grade, while another eight per cent were at least two grades below the norm for their age. In all, about one child in four departs from the age-school grade norm. Bernert's work, based on special tabulations from the 1950 census of population, also provides information on the extent to which different categories of children — Negro and white, rural and urban, male and female — vary in their rate of progress through school. See Eleanor H. Bernert, *America's Children* (New York : John Wiley and Sons, 1958), Chapter 6, " Variations in Age-Grade School Progress ", pp. 64-84.

TABLE 1. SCHOOL RETENTION RATES, 1924-1956, UNITED STATES

NUMBER CONTINUING PER THOUSAND FIFTH GRADERS IN :

GRADE	1924-1925	1928-1929	1932-1933	1936-1937	1940-1941	1944-1945	1948-1949
Ninth	612	736	786	839	781	848	863
Twelfth	344	432	510	425	507	549	619
High school graduates	302	378	455	393	481	522	581
Year of h.s. graduation	(1932)	(1936)	(1940)	(1944)	(1948)	(1952)	(1956)
College entrants	118	137	160	121	[1]	234	301

[1] Because many of the college entrants at this time were veterans of World War II continuing their education after a considerable delay; the synthetic method cannot be applied in this case.

Source : Office of Education *Statistical Summary of Education : 1955-56*, Table 6 page 13.

Of every thousand fifth grade pupils in 1924-25, 612 entered high school four years later, 344 " survived " to reach the twelfth grade, 302 graduated from high school, and 118 entered college in 1932. School mortality began relatively early at that time, four children in ten dropping out before high school and three more during high school. Until the Second World War, educational chances increased markedly at all grade levels. The war brought a halt to these trends, increasing mortality first in the high school grades, and then at or before entrance into high school. By 1948, the disruptions of the war had been overcome, and school survival rates continued to increase until the end of the period observed. By 1956, youth had as great a chance of staying in school into the twelfth grade as the first age cohort had of surviving to the ninth grade — in both cases just over six chances in ten.

The table also includes mortality rates in processing from high school graduation to college entrance. The number of withdrawals from the educational sphere over this brief time interval of a summer vacation is now the single greatest component in total school mortality — far greater than in any single year, any two years, and about equal now to the total loss over the four years of high school. But a related trend becomes apparent from examining the table : while the proportion who go on to college almost tripled during this time period, the proportion reaching the twelfth grade but *not* continuing into college has also increased. Only 23 per cent of the first age cohort survived to the twelfth grade but not beyond, in comparison with 32 per cent of the last cohort. In effect, this is to substantiate what high school principals and teachers have been reporting for years : that the increase in total high school enrolments[1] is made up of two parts : increasing numbers of college-oriented high school students and increasing numbers of non-college-oriented high school students. Diverse orientations towards education are now all accommodated within the American public high school, because the student body has so broad a base in the total population.

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[1] More exactly, the increase in the proportion of high school-age youth enrolled in school. Because of the low birth-rates during the depression years, the number of youth in high school in 1954 was actually slightly less than the number in high school on the eve of the Second World War. See Office of Education, *Statistical Summary of Education : 1955-56*, Table 4, pp. 10-11.

YOUTH WHO LEAVE BEFORE COMPLETING SECONDARY SCHOOL

While the majority of American youth now complete a secondary education, a large minority do not. Valuable insights may be gained about withdrawals from high school from a large-scale study conducted by the Office of Education covering all youth who entered the public high school of fourteen of the largest American cities in 1951[1].

The study suggests that those who drop out are indeed sensitive to legal attendance requirements, since they tend to leave school neither before the legal age (which involves getting special exemption) nor much after. Of all those who dropped out of high school before graduation, the largest proportion, some 38 per cent, did so during the second year, the school grade which corresponds most closely to a chronological age of sixteen[2].

Some young people stay in school only as long as they are compelled to do so. Others are not quite so impatient to leave school, but nonetheless drop out before graduating. Since over 60,000 pupils dropped out of the schools in these cities during the four years of the survey (1951-55) we can be sure that all of the most common circumstances associated with leaving school are represented[3]. Going to work was the single most frequent activity accompanying school leaving. Most of those who went to work on dropping out of high school seem to have acted out of necessity, not out of choice. If it were the desire to gain the independence and prestige of earning one's own way that led youth to go to work, then we might expect this attraction to grow stronger from one year to the next, as dependence on families became more and more of a frustration. But in fact, the large majority who left to go to work quit in the early years of high school. More left the ninth grade than the twelfth to go to work, even though becoming a breadwinner is surely less of an attraction to the average fourteen or fifteen-year old than to the average eighteen-year old.

The other major circumstance accompanying school-leaving can more easily be described as the absence of any definite activity after dropping out, or simply the lack of any interest in continuing in school. Quite a number left school without going to work, entering the army, getting married, being ill, or for any other discernible reason. If these youth are combined with another set — those classified in the survey as " unable to adjust " in school — they account for a good part of those who did not go to work. Those " unable to adjust " were probably those whose lack of interest in school turned to active rebellion (some 70 per cent were boys, for one thing) while the others had found so little to keep them in school that they simply stopped attending. Typically, these youngsters leave school towards the end of their secondary education. While 61 per cent of those who went to work dropped out by the end of the tenth grade, only 31 per cent of the uninterested or unadjusted who dropped out had left by then[1].

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[1] Office of Education, *Retention in High Schools in Large Cities* (US Government Printing Office, 1957).

[2] *Ibid.*, page 6.

[3] The survey was careful to distinguish between those who left the schools observed but continued their education elsewhere (in another community or in a private school) and those who discontinued their schooling. Only the latter are counted as withdrawals. See *Ibid.*, pages 10-11. The study, it is worth mentioning, was of the " panel " design; it traced all pupils for four years after their entrance in 1951.

Because of compulsory school attendance laws, most youth attend high school — that is, most enter high school and stay there for some length of time. But by the twelfth grade, when students are generally well beyond the legal age of required school attendance, the original class has lost some of its members : a certain number went to work, others lost interest, a few of the girls married or became pregnant[2], some were imprisoned[3], some joined the army, and a few died.

THE SOCIAL ORIGINS OF TWELFTH GRADE PUPILS

It would be a matter of some surprise if the youth who withdrew from high school under the various circumstances discerned here, were identical in their significant social statuses — age, sex, race, religion, occupational and regional origins — from their classmates who remained in school. But official school statistics do not yield measures of the extent to which youth who complete secondary school differ socially from those who do not.

TABLE 2. ACTUAL AND EXPECTED DISTRIBUTION OF AMERICAN PUBLIC HIGH SCHOOL SENIORS, ACCORDING TO FATHER'S OCCUPATION

FATHER'S OCCUPATION	ACTUAL	EXPECTED
Professional	6.9 %	6.0 %
Proprietors, officials and managers	21.3	11.7
Clerical, sales workers	9.3	9.8
Service workers	5.7	5.1
Non-manual sub-total	43.2	32.6
Skilled workers	18.3	18.5
Semi-skilled workers	16.9	21.0
Unskilled workers	5.0	6.8
Farmers, farm labourers	13.0	14.9
Manual, farm sub-total	53.2	61.2
Not classifiable	3.6	6.2
Total	100.0 %	100.0 %

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[1] *Ibid.*, computed from Table II, page 14.

[2] The survey in fourteen large cities included a set of pupils who dropped out of school when they were " excused for a physical disability ". Some two-thirds of these were girls, and the report strongly hints that most were excused when they became pregnant by saying that this group brings to mind " the need of study and, perhaps, a different approach to a social problem that is the responsibility of other agencies as well as the school ". (*Ibid.*, page 13.)

[3] The same study provides a nice indicator of the degree of privilege and of protection from social hazards represented by the status of high school senior. In all of the fourteen cities, which included New York, Chicago, and Philadelphia, only sixty-one high school seniors were committed to correctional institutions in 1955. Four years earlier, over six hundred of the high school freshmen in these cities were taken into legal detention.

Therefore, a national sample survey of twelfth grade pupils carried out by the Educational Testing Service in 1955[1] will be examined to derive an estimate of the social statuses of youth who remained in school at least until the middle of the final year of secondary school. The 35,000 youth who participated in the survey were asked about their family backgrounds, and specifically about their father's occupation and educational level.

The column headed " Actual " in Table 2 gives the proportions, among the sample of seniors, whose fathers were reported in the listed occupational statuses. Youth are certainly not infallible informants about their fathers' work, but we may nonetheless accept their reports as reasonably accurate. Over a thousand students, however, did not answer the question concerning their father's occupation in such a way as to permit a judgment of the father's status.

The column headed " Expected " derives from a sample survey of 25,000 households conducted by the Bureau of the Census in March 1950. In this survey, the total number of children under eighteen (i.e. born between 1932 and 1950) were counted, and are reported according to various characteristics of the family, including the occupation of the head of the household[2]. That all children under eighteen were included makes the survey less comparable to our data than would have been the case if the count had been restricted to a narrower age group — ideally, youth of about the same age as the high school seniors of 1955.

An independently derived expected distribution was also computed. Here, we began with the occupational distribution of men aged 45-64 at the time of the 1950 census of population. The proportion in each occupational status was then weighted according to the relative fertility of women married to men in that status in *1940*. Since these fertility ratios were based on the number of children born between 1935 and 1940, they are satisfactorily close to the age cohort we are most concerned with. The results of this independent check squared so well those obtained by the direct count made in 1950 that it was decided to use this latter source[3].

Comparing the occupational origins of high school seniors with the occupational origins of all American children and youth, some tendencies toward differential recruitment to the twelfth grade are apparent. More high school seniors come from families where the head is in a white collar or service occupation than is the case for the youthful population as a whole[1].

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[1] The figures presented below were tabulated by the present author, who was given access to the IBM cards from the survey. The description of the survey — its purpose, design and primary results, are found in *Background Factors Relating to College Plans and College Enrollment among Public High School Students* (Princeton, New Jersey : Educational Testing Service, 1957).

[2] Bureau of the Census, Current Population Reports : *Population Characteristics,* " Children and Youth : 1950 ", Series P-20, No. 32, December 4, 1950. See Table 11, page 15.

[3] Of the children represented by the Bureau of the Census sample, almost 12 per cent were in families where the head was either unemployed, not in the labour force, or in the armed forces. Children of the unemployed were added to the bulk of the cases in the following way : the occupational distribution of unemployed males at the time of the 1950 census was applied to them, and the resulting numbers added to the total. Children whose fathers were in the armed forces were excluded — which has the same effect as distributing them proportionately to those included. Since they range from the children of generals and admirals to the children of privates, this is probably a satisfactory procedure. Those in families where the head is not in the labour force (retired, ill, full-time housewives, etc.) are reported in Table 2 as Not classifiable.

Manual workers' children (below the level of skilled workers) and the children of farmers and farm labourers tend to be somewhat under-represented in the high school senior population. While it is difficult to make any judgment about the status of the families of those high school seniors who gave no clear statement about their family's source of income, it may be that some of these youth come from families where neither parent (if both are present) is economically active. This is clearly the case for the 6.2 per cent in the second column who are labelled Not classifiable, for they are members of families whose head is not in the labour force. Presumably many of these youth are themselves already at work. This may account for the fact that more are to be found in the total than in the high school senior population[2].

At the time when the Educational Testing Service conducted its survey of high school seniors, there were approximately 1,250,000 twelfth grade pupils in public high schools. At the same time there were about 2,128,000 youth in the age cohort from which the high school seniors were principally drawn. If the percentage distributions given in Table 2 are applied to these

TABLE 3. ESTIMATED NUMBER OF EIGHTEEN-YEAR-OLDS AND OF PUBLIC HIGH SCHOOL SENIORS FROM DIVERSE OCCUPATIONAL ORIGINS, 1955

OCCUPATIONAL ORIGINS	ALL EIGHTEEN-YEAR-OLDS	HIGH SCHOOL SENIORS
Professional	128,000	86,000
Proprietors, officials, and managers	249,000	265,000[1]
Clerical, sales workers	209,000	116,000
Service workers	108,000	71,300
Non-manual sub-total	694,000	538,500
Skilled workers	393,000	229,500
Semi-skilled workers	447,000	211,500
Unskilled workers	145,000	62,500
Farmers, farm labourers	317,000	163,000
Manual, farm sub-total	1,302,000	666,500
Not classifiable	132,000	45,000
Total	2,128,000	1,250,000

1. See footnote 1, previous page.

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[1] The sample of high school seniors in the survey with which we are working is not a perfect representation of all American public high school seniors. The high schools in the survey include more larger schools, and fewer schools in the South and in the Midwest than are to be found in the universe of high schools. The biases in the sample undoubtedly have their effects on the occupational origins of the seniors, as well. There may be more students from farming and lower manual status families in the universe of high school seniors than in the sample.

[2] The over-representation suggested in Table 2 of the children of proprietors, managers and officials is probably in good part incorrect, and a result of errors in reporting and classifying fathers' occupations which should have been more evenly spread over the clerical, sales and professional categories in the Educational Testing Service sample.

numbers — the " actual " distribution to the number of high school seniors, the " expected " distribution to the number of eighteen-year-olds — we can evaluate the results of differential recruitment to the twelfth grade in the light of its total impact on all American youth, classified according to their occupational origins.

The figures presented in Table 3 provide a rough estimate of the manner in which survival to the twelfth grade varies in extent among youth from diverse occupational origins. About two-thirds of a million young people living in families supported by a manual worker, farmer, or farm labourer are not to be found in the ranks of public high school seniors. By contrast, about one hundred and fifty thousand youth from white collar or service workers' families are missing by the twelfth grade. It should be recalled, furthermore, that only public high school students are included here, since the sample of seniors was confined to those attending public high schools. If youth attending private high schools were added to the numbers counted here as in school, it is likely that many of the " missing " white collar youth, but only a small proportion of the non-public school youth from working class and farm families, would be found in attendance.

If the various trends in high school enrolment discussed above are collated, the following synthesis comes to the fore : attending school for twelve years has become typical in recent years. The majority of youth now graduate from high school — a stage not reached until after the close of the Second World War. More and more, the membership of the twelfth grade class in high school has embraced youth from all reaches of the social and economic structure, as the practice of remaining in school has spread out through the society. The current situation still indicates inequality in school retention rates, however, with many hundreds of thousands of young people either moving into adult roles as workers, soldiers, or housewives or simply " hanging out " idly when their age mates are still continuing their education.

THE SOCIAL COMPOSITION OF SENIOR CLASSES IN DIVERSE HIGH SCHOOLS

As the proportion of youth continuing in school through the twelfth grade has increased, the student body in high schools has become more heterogeneous. When only a relatively small proportion of young people survived in school to complete twelve grades, they tended to be drawn in large proportions from the more privileged socio-economic status families, and hence formed a group relatively homogeneous in background and orientations. Now that the majority of an age cohort reach the twelfth grade, high school seniors tend to vary origins almost as much as an age cohort does.

But there follows from this trend a corollary development less apparent but perhaps just as laden with social consequences. With the declining exclusiveness of secondary education, high schools have become more unlike one another in the social composition of their student body. When only a few youth finished high school, the social profile of any one school probably resembled that of any other school — in all cases showing a marked concentration of middle class students. But now, the social profile of a school has " filled out " in such a way that it tends to follow more closely the social profile of the neighbourhood or community where it is located. This gives to schools a far greater diversity than was previously the case.

We cannot document that such a change has occurred, since the necessary data are not available. But we can compare with one another the more than five hundred high schools in the same Educational Testing Service survey to gain an impression of how much they diverge from one another in the social profiles of their senior classes. Before presenting this evidence it will be worthwhile to bring together here a number of related observations, since they in fact provide a sufficient argument for this assertion.

First, the spread of public high schools across the land is such as to give American secondary education an extremely localized character. Wherever there are clusters of people, no matter how small the clusters are, there are high schools. Second, the division of economic activities in society has an ecological aspect : communities of different sizes vary in their occupational composition, since occupations tend to differ in their degree of urbanization. And third, because high schools are now relatively open to all young people, the family backgrounds of students tends to run quite parallel to the shape of the occupational structure of the community. In broadest strokes, because communities vary in social structure, so do the social profiles of schools ; because every community has at least one school, very little of the variation in social structure from one town to another is lost by the coalescence in a single school of students from diverse communities. Taken as a total educational system, American high schools *do* include everyone to a greater degree than before ; but taken singly, with each high school counted as a single unit, the typical range of the student body at a single school is narrower than that covered by students at all schools taken together.

The evidence to test the last assertion was assembled as follows. Father's occupation and father's education were combined to form a set of social status categories ranging from professionals and well-educated managers at one extreme to poorly-educated workers and farmers at the other. The categories were intended to include equal numbers of youth from each of five types of family backgrounds, and are therefore called social status quintiles. In point of fact, one of the five categories proved to contain some 23 per cent of the seniors, one had 20 per cent, while each of the other three had about 19 per cent — a slight departure from the ideal of 20 per cent in each of the five. If all the schools in the survey had just as wide a range of family backgrounds as all of the others, then each of the quintiles would be represented in like proportions at every school. Approximately one senior out of every five would come from the top quintile, consisting of professional-executive, well-educated families, another one out of five would be the son or daughter of a shopkeeper or salesman, another of a factory worker, etc. But if some high schools tend to " specialize " in the children of factory workers, while others have a more than proportionate share of the children of professionals, then something less than the full range of social backgrounds is found at such schools.

It is possible to give an objective answer to the question of the range of family backgrounds at each school by computing the difference between the social status composition of its seniors and that of the national average.

Table 4 shows the distribution of all save the very smallest of the 518 high schools in this survey, according to the discrepancy in family backgrounds between their seniors and the national average.

The 56 smallest high schools in the sample, those with less than ten students in their senior class, are omitted from this table. Partly because of their size — but only partly — they show a far greater departure from the

TABLE 4. DISTRIBUTION OF HIGH SCHOOLS ACCORDING TO DEGREE OF DISCREPANCY BETWEEN ITS SENIORS' SOCIAL ORIGINS AND THE NATIONAL AVERAGE

PERCENTAGE OF DISCREPANCY	NUMBER OF HIGH SCHOOLS	PER CENT OF HIGH SCHOOLS
5 % or less	5	1.1
5 — 10 %	28	6.1
10 — 15 %	62	13.4
15 — 20 %	75	16.2
20 — 25 %	82	17.7
25 — 30 %	56	12.1
30 — 35 %	34	7.4
35 — 40 %	36	7.8
40 — 45 %	30	6.5
45 — 50 %	25	5.4
50 % or more	29	6.3
Total	462	100.0 %
Median discrepancy	24 %	

modal social profile than the larger schools. But even without them, the average (median) high school has a senior class whose social origins diverge from that of the entire sample of seniors by about one-quarter. About one-quarter of the seniors at the average school constitute a surplus in some part of the social hierarchy — high, middle, or low — compared with the overall distribution.

There is no *prima facie* case to be made for saying that this degree of overlap is small, moderate, or large. At best, we might be able to make a relative judgment by comparing it to a distribution of overlap in another set of schools. But no such evidence exists. Instead, we can build up a systematic array of observations about the present sample, and concentrate less on the magnitude of overlapping and deviating social profiles from one high school to another than on their location, direction, and structural sources.

Almost every high school has a surplus and corresponding deficit of students coming from certain parts of the social hierarchy (where surpluses and deficits are defined as deviations from the total social profile formed by the entire sample of over 35,000 high school seniors). Further analysis shows what at first seems an arithmetical impossibility : that most high schools, in fact, over 65 per cent of all the schools, have a deficit of seniors from well-educated professional and managerial families, while only 21 per cent have a deficit of seniors from poorly educated labouring or farm families. It seems that the surpluses and deficits should be equal over all categories, since the standard by which they are determined is simply the sum of all students over all schools. But the anomaly is only apparent. The social profile of all seniors gives greater weight to the larger schools, since, in its construction, every student counts as one. But in the tally of schools according to their surpluses and deficits of students, every school counts as one, no matter how large or small its student body.

Since the majority of schools lack their proportionate share of students from professional and managerial families, then such families must be concentrated in areas serviced by large schools. Conversely, if unskilled and farm families are over-represented at most high schools, relative to their representation among all high school seniors, then they are undoubtedly found primarily in the smaller schools. Table 5 confirms these trends. The sample of schools is divided into four size categories : those with at least one hundred students in their senior class, those with fifty to ninety-nine seniors, twenty-five to forty-nine seniors, and finally, those schools with twenty-four or fewer seniors. (Even the smallest high schools are included here.) For each set of schools the table shows how many have a surplus, how many a deficit, and how many an average proportion of seniors coming from each of the five socio-educational categories. When less than 15 per cent of the seniors come from a given category, the school is considered to have a deficit of such students ; when 15-24 per cent come from the category, the school is defined as having an average number, and a school where 25 per cent or more of the seniors come from a given category is defined as having a surplus.

TABLE 5. NUMBER OF HIGH SCHOOLS WITH AVERAGE PROPORTIONS, DEFICITS AND SURPLUSES OF SENIORS FROM EACH SOCIAL STATUS QUINTILE, BY SIZE OF SCHOOL

% OF SENIORS IN EACH QUINTILE	1-24 SENIORS	25-49 SENIORS	50-99 SENIORS	100 OR MORE SENIORS	ALL SCHOOLS
Quintile V (Top)					
more than 25 %	7	9	8	34	58
15-24 %	20	30	37	34	121
less than 15 %	165	85	58	31	339
Quintile IV					
more than 25 %	47	26	16	15	104
15-24 %	55	49	58	71	233
less than 15 %	90	49	29	13	181
Quintile III					
more than 25 %	28	11	11	22	72
15-24 %	36	37	53	61	187
less than 15 %	128	76	39	16	259
Quintile II					
more than 35 %	21	19	21	17	78
25-34 %	30	23	30	35	118
15-24 %	41	41	35	31	148
less than 15 %	100	41	17	16	174
Quintile I (Bottom)					
more than 25 %	152	93	54	6	305
15-24 %	26	17	25	34	102
less than 15 %	14	14	24	59	111
	192	124	103	99	518

For an explanation of the special treatment of Category II, see text.
Major occupational statuses included in each of the categories :

Quintile V :	College-educated professionals, technicians, executives, proprietors, managers, officials, clerical, and sales workers.
Quintile IV :	All other professional, technical, and sales workers, all other proprietors, clerks and lesser managerial workers with high school education.
Quintile III :	All other clerical and lesser managerial workers, skilled and semi-skilled workers with at least high school graduation.
Quintile II :	All other skilled and semi-skilled workers (except education not specified).
Quintile I :	Farmers with less than high school graduation, all unskilled workers, skilled and semi-skilled workers with unknown amount of schooling.

The relationship between the size and social profile of a high school is not a simple, linear one. For example, virtually all of the smallest schools have fewer than their proportionate share of seniors from well-educated upper white collar families (Category V), but about one-third of the very largest schools also have less than their share of such students. The great bulk of high school seniors from the most socially advantaged families are concentrated in some — but clearly not all — of the nation's largest schools. In fact, students from the most well-to-do families are so densely concentrated that it needs only a dozen of the more than five hundred schools in the sample — just over two per cent — to account for almost a quarter of all of the socially most advantaged seniors in the entire sample.

Category IV, consisting of various types of middle white collar workers — storekeepers and salesmen, semi-professionals, and a few well-educated foremen and farmers — is the most evenly dispersed over all schools. Many schools have something close to the random proportion of students from these family backgrounds — that is, the proportion is about average (19 per cent) plus or minus five per cent at nearly half of the schools in the sample. This trend corresponds to the ecological distribution of some white collar occupations, particularly proprietors of retail stores, which show a relatively even distribution according to community size.

The preponderant number of students in Category III are the sons and daughters of office and clerical workers or of service and industrial workers who completed secondary school. Children from families in these parts of the occupational structure are found more typically in the classrooms of the nation's large schools than in its small schools. Since the most urbanized occupations are included in this category, youth whose fathers are members of such occupations are most often found in large schools.

Category II consists of the children of industrial workers with less than twelve years of formal schooling. Because the random proportion of all seniors coming from this kind of family background was somewhat higher than that for the other categories, namely twenty-three per cent, schools where 15-24 per cent of the students were from such families were placed in an " Average-Low " category, while those with 25-34 per cent were placed in an " Average-High " category. Nonetheless, the proportion of schools with average numbers of such students is still only a bare majority of fifty-one per cent. Surpluses are found more typically in the larger schools, and deficits more often in the smaller schools. Over half of the very smallest schools have less than a proportionate share of the sons and daughters of industrial workers.

Farmers' children constitute the bulk of the students placed in Category I, the rest coming from the unskilled and uneducated parts of the manual score. Such students are typically in short supply in the largest of our public high schools, are over-represented even in the medium-sized schools of fifty to ninety-nine seniors, and represent a surplus in over three-fourths of the smaller schools. Very few schools have just an average number of students from these families — less than a fifth of the schools, in fact. They are either under- or over-represented, the direction being closely related to the size of the school.

To summarize from the point of view of *schools* :

— large high schools are deficient in the number of students from farming and lower manual workers' families, about average in numbers of students from the middle of the occupational hierarchy (although more likely to have surpluses than deficits of such students) and are the only schools to have any appreciable surpluses of children from professional and upper managerial families (although just as likely to have average or less than average numbers of seniors from the top of the occupational hierarchy).

— medium-sized schools of fifty to ninety-nine seniors have a surplus of children in Category I (farmers and uneducated and unskilled manual workers), typically average proportions in Categories II, III, and IV but with more deficits than surpluses in these middle sectors, and typically, a deficit in Category V.

— small schools of less than fifty and, especially, less than twenty-five seniors, almost always have a surplus in Category I, typically, they are short of students from every other part of the occupational structure, and especially so of students in Category III (the top of the manual and bottom of the white collar hierarchies) and in Category V.

Surpluses and deficits, in this context, refer to deviations of at least five per cent from the overall proportion of seniors from a given type of family. This is probably not a sufficiently marked deviation, however, to identify those high schools whose social class composition is so skewed as to stamp them with a definite class character. How many " working class ", " middle class ", or " rural-farm " high schools are there in the sample ? The criteria used to identify these schools were the following : where at least forty per cent of the seniors fell in one of the five socio-educational categories, or where at least sixty per cent fell into two adjacent categories, the school was classified as having a definite class character. When applied to all schools except those with fewer than ten seniors, the results were as follows.

TABLE 6. NUMBER OF HIGH SCHOOLS OF A DEFINITE CLASS CHARACTER, ACCORDING TO SIZE OF SCHOOL

CATEGORIES OF WHICH BASED	NUMBER OF SENIORS					
	TYPE OF CLASS CHARACTER	100 OR MORE SENIORS	59-99 SENIORS	25-49 SENIORS	20-24 SENIORS	ALL SCHOOLS[1]
V or V-IV	Professional-managerial	15	2	1	4	22
IV	Commercial	—	—	1	1	2
III-II, or II	Industrial-lower white collar	10	13	4	6	33
II-I, or I	Farming-labouring	4	30	75	96	203
Number of Schools with Definite Class Character		29	45	81	107	260
Per cent		30%	44%	65%	78%	56%

1. Excluding schools with fewer than ten seniors.

The terms used to describe the type of social class predominating at the school should be read as broadly as they were coined, and in the light of the more precise socio-educational categories for which they stand. The great majority of schools counted here as of a definite class character met the first, and more rigorous, of the two criteria : at least forty per cent of the seniors came from a single one of the five socio-educational categories. In fact, there is one trend that works against large numbers of youth coming from two adjacent categories of families. Category V consists of families in highly urbanized occupational statuses, while Category IV includes occupations distributed more evenly over places of different sizes. Category III — lower white collar and well-educated manual workers — again includes highly urbanized occupational statuses, while the two lowest categories, II and especially I, are the least urbanized of all. As a result, the only pair of adjacent categories that show a high positive correlation with one another are I and II, and this is the only combination to be represented by more than an occasional high school in the count reported in Table 6.

Of the high schools with at least one hundred seniors, thirty per cent have senior classes whose social composition shows a high concentration of youth from a specific type of family. Of these schools, half are clearly upper middle class, while the other half are definitely lower middle class or working class. What differentiates these two sets of schools is of course the nature of the community where they are located. Thus, eight of these large schools of a definite class character serve suburban communities. All eight have senior classes where upper middle class families predominate. Another six of the schools are in small towns or villages — three are upper middle class, three are working class. The remaining fifteen high schools are in large cities, and of them, four are upper middle class, the other eleven working class. When the social composition of all senior classes in diverse types of communities is examined shortly, these trends will again appear.

Among the high schools with fewer than one hundred seniors, virtually all that are of a definite class character show heavy over-representations of farmers' and labourers' children. Some 44 per cent of public high schools with fifty to one hundred seniors are of a definite class character, and a large majority of high schools of smaller size are of a definite class character. The smaller the high school, the more likely it is to have a markedly skewed social class composition. (While the schools with fewer than ten seniors are not included in this count, it is worth noting that of the 323 seniors in these schools, 46 per cent come from families classified in Category I. Seniors from these families are in the majority in twenty-eight of the schools with fewer than ten seniors.)

Over half of all the schools are heavily attended by students from a single or a pair of adjacent socio-educational categories. This is not to say, however, that more than half of all American high school seniors attend schools marked by a definite class character. The proportion of all seniors attending such schools is in fact lower, since most of the large schools are free of extremely deviant social class profiles. In fact, none of the eight largest schools in the sample — each with a senior class of at least four hundred — is of a definite class character ; these few schools account for more than eleven per cent of the entire sample of students[1]. Of the more than thirty-five thousand seniors in the study, about thirteen thousand, or somewhat over one-third, attend schools that are of a definite class character. From the point of view of the student, this is to say that he has more than one chance in three of attending a school where he and others of like social origins are either in a clear majority or in a clear minority.

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[1] However, the social origins of students at the very largest high school in the study are worth noting. Only 6 per cent of its 744 seniors fall in the lowest category, and 17 per cent in Category II. The expected proportion in these two lowest categories is 43 per cent, compared with the observed 23 per cent. Of the remaining seniors, 55 per cent fall in Categories IV or V, compared with the expected 38 per cent. Because of the rigorous criteria used to define a school with a " definite class character ", this school escapes the net, even though it " looks " and " behaves " in all respects like a middle class school. Residents of the Northern city where it is located describe it as a " good middle class high school ". This suggests that the criteria used in the foregoing analysis may lead to an understatement of the number of schools with a definite class character.

To complete the evidence concerning the diversity of American high schools in the social origins of their students, we present data on the contrasting social class profiles of twelfth graders who live in different types of communities.

Here we depart from the procedure of characterizing one school at a time, and combine all students living in the same type of community, no matter which of the several high schools in such communities they happen to attend. The distribution by social origins is shown here for the average high school in each of eight types of communities, and is expressed in absolute numbers (but as an average) rather than percentages. This allows study of the *joint* effect of the variations in size of school and in social origins of students among different types of communites.

TABLE 7. AVERAGE NUMBER OF SENIORS PER HIGH SCHOOL, ACCORDING TO SENIORS' SOCIAL ORIGINS AND TYPE OF COMMUNITY WHERE HIGH SCHOOL IS LOCATED

STUDENTS' SOCIAL ORIGINS	TOWNS OF :			SUBURBS OF :			CITIES OF :	
	UNDER 2,500	2,500-10,000	10,000-50,000	UNDER 2,500	2,500-10,000	10,000-50,000	50,000-500,000	OVER 500,000
Category :								
V	2.3	10.0	28.4	8.2	21.4	48.5	38.8	58.5
IV	4.1	12.7	26.4	8.8	13.3	26.0	37.9	63.5
III	3.1	10.2	25.3	8.9	13.4	26.7	47.3	69.0
II	5.2	15.5	31.5	12.9	16.9	28.9	54.1	71.3
I	10.9	15.7	21.7	10.3	7.3	11.1	23.6	32.1
Average No. of Seniors per School	26.0	64.1	133.3	49.1	72.3	141.8	201.7	294.4
No. of High Schools	270	85	42	36	15	22	29	19

The figures given in Table 7 describe the social origins of the seniors in the average high school in villages, towns, suburbs, and cities. Because they are " collective portraits ", with all of the seniors living in the same size community counted together, they tend to cover up a certain amount of the diversity from one high school to another. Not all village high schools are alike in the social origins of their seniors, and certainly not all high schools in the nation's largest cities are alike in the type of neighbourhoods they serve. Some of this variation was reported in the discussion of large high schools with a markedly skewed social class composition among their twelfth grade students.

Nonetheless, much of the diversity in students' social origins *is* caught up by comparing youth who attend schools in different types of communities. By giving the social profiles of twelfth graders in absolute numbers, rather than percentages we hope to suggest more vividly two distinct types of consequences of social diversity among American high schools : on the one hand, the nature and the magnitude of the tasks imposed on teachers and other school personnel by their student body, and, on the other, the opportunities and barriers to friendships and other social contacts available to the students themselves as indicated by the characteristics of their classmates. Both the formal and the informal organization of a high school take shape in the context of a student body that varies not only in the proportions but in the absolute numbers coming from diverse social origins. For example, in the average high school located in a town of less than 2,500 inhabitants, under 9 per cent of the seniors come from families in Category V (professionals, executives, etc.). But it is well worth noting that this represents an average of about two seniors from upper middle class families in these schools. When it comes to imagining what this implies for the problem of gearing the curriculum to the interests and needs of the students, and for the way students come to terms with their differences in family backgrounds, the actual number of persons involved is of as much help as the relative number.

In the average village high school, the children of farmers so outnumber children from any other occupational background that they clearly play the decisive role in determining what the school has to do and what the social " tone " of the school is like.

In strongest contrast to the small farm-centred high schools are the high schools of larger suburban communities. On the one hand, the enrolments in these latter schools are large — their twelfth grade classes, with an average of more than 140 students, are more than five times larger than the average in village high schools. And the children of professional and business executive families dominate in numbers in suburban high schools, with an average of almost fifty seniors from these social origins per school. Youth from poorly educated labouring or farm families are in a minority in suburban high schools. But, it is well to note, there are as many of them in the average suburban school as in the average village school. The opposing trends in relative and absolute numbers almost exactly cancel out one another in the case of labouring and farm youth in villages and suburbs. They are the biggest group in the smallest schools and the smallest group in the suburban schools — and of equal size, on the average, in both.

It is in the largest cities and in towns of 10,000 to 50,000 population that the social class distribution of high school seniors appears to be relatively even. However, the averages given above cover up more variation among the various towns and cities in the sample than among the villages and suburbs. The averages are to that extent less suggestive of the conditions prevailing in the separate high schools of American towns and cities. For example, of the nineteen high schools in metropolitan centres of at least half a million, five have senior classes where families classified in the top two categories are in the majority — at least one senior out of two in these five schools is from a middle or upper middle class family. In another six schools, these two categories include from thirty to fifty per cent of the senior class, while in the remaining eight high schools, they are definitely under-represented, with less than thirty per cent of the seniors stemming from these social origins. When all nineteen high schools are aggregated, the variation among them is of course lost. Nonetheless, it is of interest to recall that the sheer size of these metropolitan schools is such that youth from a wide variety of family backgrounds tend to find their way in some numbers into most of the schools.

The idea conveyed by all the evidence concerning diversity among the student bodies at American public high schools takes us one step — but an important step — beyond the beliefs held by most persons. One can readily think of types of high schools in the United States that do not serve a cross-section of the population : tiny rural schools, segregated Southern Negro — and white — schools, wealthy suburban schools, big city vocational schools, and perhaps others. But surely, one thinks, these are exceptions to the solid core of American public schools, open to all, and used by all. In fact, however, it is the school whose student body reaches from highest social class to lowest in just about the same proportions as in the country as a whole, that turns out to be the exception.

This is not to say that most American schools close their doors to young people wanting to gain entry. To the contrary, it is their very openness to the youth of their own community that leads to the variation observed above, since the different social class profiles from one school to another stem in large measure from the different social class profiles among American communities. In a more selective, more exclusive educational system, local variations in socio-occupational structure would have less effect on the distribution of family backgrounds of high school students, since students would come primarily from the more favoured parts of the community, no matter how large or small a part of the community such families comprised. But because American schools are accessible to all and attended by all to a considerable extent, the social origins of students vary from one school to another in a way that corresponds to social differences among localities.

V

THE PAST AND FUTURE INFLOW OF STUDENTS INTO THE UPPER LEVELS OF EDUCATION IN THE NETHERLANDS

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INTRODUCTION

This paper is in the form of a progress report on methods of forecasting enrolment in grammar schools and universities, and covers both theoretical and technical problems.

Several forecasting models have been used in the course of time ; as these are based on previous analyses of enrolment and inflow, both earlier and recent analyses have been included for purposes of comparison.

This report attempts to give a review of the combined efforts of the many persons who have contributed to the work of analysing and forecasting grammar school and university enrolment in the Netherlands, including members of the Statistical Committee of the Universities' Council, and research workers at the Netherlands Economic Institute, the Central Bureau of Statistics and the Central Planning Bureau.

1. System and structure of secondary education

On completing six years' primary education, pupils may remain for another two years at primary schools, go to continuation schools or classes (2 years), to secondary technical or vocational schools (2, 3 or 4 years), to secondary modern schools (3 or 4 years), or to secondary grammar schools (5 or 6 years). Only secondary grammar schools lead to the university (± 7 years).

Schools are managed by central or local governments, or by private bodies (whether denominational or non-denominational), and are supervised and paid by central government.

There are several types of secondary grammar schools[1] :

a) grammar schools (" gymnasium ") (six-years). From the beginning of the fifth[1] year the syllabus is divided into an " A " or language section, and a " B " or science section ;

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[1] Throughout this report the school organization and structure referred to is the one prevailing in 1962-63. The " Mammoth Law " enabling a major reform in this structure was not yet implemented nor did data exist indicating the effect of the proposed changes on the flow of students through the secondary schools.

b) modern grammar schools (" h.b.s. ") (5 years) have a common syllabus for the first three years and then split into " A " and " B " sections ;

c) girls modern grammar schools (5 years), concentrating on literature, music and history ;

d) commercial day schools (three or four years), concentrating on languages, commercial correspondence, geography as related to trade, economics, etc ; quantitively these are an insignificant part of grammar school education.

These various types of school are housed in separate buildings or (with the exception of commercial day education) in lycea. The lyceum has a first year common syllabus after which pupils go into the modern grammar, grammar or girls' modern grammar streams. After a further 2 years (modern grammar) or 3 years (grammar) pupils are split up into A and B sections.

Compulsory education lasts 8 years, so that the choice of secondary school is made while pupils are still in the compulsory education age group. Parents decide the type of school, but many ask the advice of the primary school teachers. Secondary grammar schools are traditionally reserved for the more intelligent children who are generally required to pass an entrance examination.

Every qualified applicant will be admitted to the specific type of school he chooses ; emergency measures (e.g. by redistributing pupils over the schools) being taken if applications exceed the capacity of individual schools.

Everyone who applies is admitted to the university, although, in general, only those with a grammar school or a modern grammar school leaving certificate are entitled to sit for university examinations in faculties specifically appointed for the type of grammar school education followed.

2. WHY FORECASTS

Forecasts are made necessary by educational goals, building requirements and time lags.

One educational goal is to ensure that every qualified pupil can get the type of education he (or his parents) wants, of the denominational type he prefers, from qualified teachers, in adequate buildings and within reasonable distance.

This goal is qualified by two conditions — a minimum number of pupils per school and output to match society's demand for skilled personnel. Information concerning future job prospects is the instrument used to reach a balance between demand and supply. This does not violate the basic policy of free educational choice, since nobody will be refused admittance to a given type of school.

Limited financial resources and building capacity make it necessary to compare the consequences of expanding education with those of expanding other sectors of the economy.

The time required to produce qualified teachers means that forecasts must be made of the future demand and supply of teachers.

Forecasts of the number of pupils will therefore serve as a basis for :

a) calculating teacher requirements ;

b) calculating the building required for new schools. The demand for building is greater than the supply in the Netherlands and priority allocations are made among the various sectors (housing, industry, schools, etc.). These allocations require both short and long term forecasts of the number of pupils ;

c) estimating future expenditure on education. After comparison with forecasts of other types of government expenditures, priorities can be assigned ;

d) (to some extent) studies of demand and supply of graduates.

Forecasts covering the nation as a whole would not satisfy all purposes. Regional differentiation is necessary to show where new schools should be located. Universities also recruit their students largely in their own neighbourhood, thus making necessary a regional analysis of the expansion in the number of grammar school pupils, and of the transfer from secondary to higher education.

DEVELOPMENT OF GRAMMAR SCHOOL EDUCATION

General

It was found that forecasts concerning grammar schools should concentrate on :

a) inflow, since increases in first year enrolment are not fully reflected in the total number of pupils until after a certain time lag. A breakdown by sex should be made, past trends for males and females having differed. A breakdown by region is necessary owing to : the differences in the admission growth rates, the use of a cross-section analysis to examine factors determining inflow, the regional recruitment of university students. A breakdown of inflow by type of grammar school stream is not possible since streaming takes place some years after admission ;

b) the number of pupils. Only the total number of pupils for the country as a whole need be known, since forecasts are used to calculate demand for teachers, the required number of new schools and expenditures ;

c) output of grammar school graduates. Analyses and forecasts should be broken down by sex (see *a*), region (see *a*) and type of school leaving certificate. Admission to the different faculties of the university being dependent on the type of certificate obtained, changes in the numbers of these different types will therefore affect inflow into the different faculties and transfer from secondary to higher education.

These points will be considered when examining the results of analyses and methods of forecasting. Some confusion may arise since, although we have wished to retain various analytical and forecasting trials, the method of collecting statistics in the past does not lend itself to the use of refined methods of analysis and forecasting.

Development of full-time secondary education

Table 1 and Graph 1 show the number of first admissions to the first year of full-time secondary education[1] as a percentage of 12 year old population.

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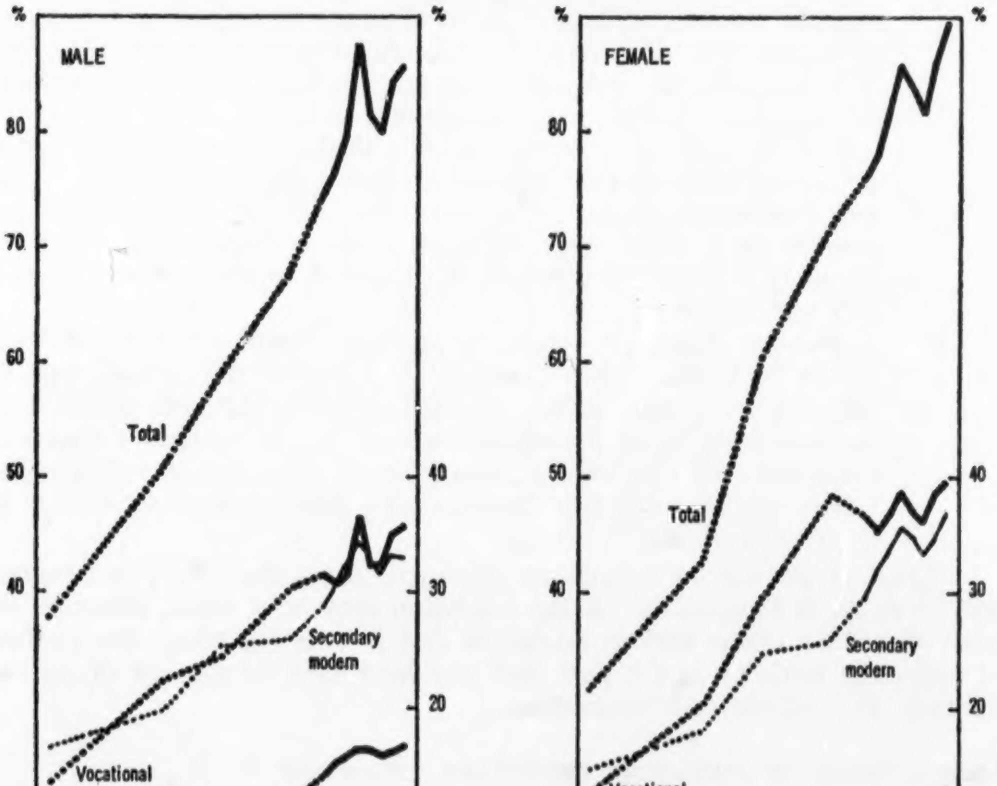
[1] Throughout the remainder of this report this category may be abbreviated to " first year admissions " to secondary school.

TABLE 1. NUMBER OF FIRST ADMISSIONS TO THE FIRST YEAR OF FULL-TIME SECONDARY EDUCATION AS A PERCENTAGE OF THE 12 YEAR OLD POPULATION[1]

	MALE				FEMALE			
	GRAMMAR SCHOOLS	SECONDARY MODERN SCHOOLS	VOCATIONAL AND TECHNICAL SCHOOLS	TOTAL	GRAMMAR SCHOOLS	SECONDARY MODERN SCHOOLS	VOCATIONAL AND TECHNICAL SCHOOLS	TOTAL
1930	7.5	16.5	13.6	37.6	4.1	14.7	12.6	31.4
1940	8.6	19.8	22.3	50.7	4.5	18.1	20.4	43.0
1950	11.2	25.4	29.9	66.5	7.1	25.1	33.6	65.8
1957	16.4	34.3	36.8	87.5	11.6	35.6	38.6	85.8
1961	16.5	33.2	36.0	85.7	12.9	36.9	39.8	89.6

[1] Excluding agricultural schools.

Graph 1. NUMBER OF FIRST ADMISSIONS TO THE FIRST YEAR OF FULL-TIME SECONDARY EDUCATION AS A PERCENTAGE OF THE 12 YEAR OLD POPULATION



The increase in this grammar school first year admissions rate, which was only slight before the war, accelerated considerably between the end of the war and 1957 ; after that date it remained constant, as it did for all types of secondary education.

No further increase can be expected in this secondary school entrance rate. About 10 per cent of the 12 year olds are incapable of assimilating a secondary education and will remain at primary or special primary schools, and about 5 per cent of the boys will continue their education in agricultural schools. It follows that the post-war increase in secondary school enrolment was accompanied by a corresponding reduction in the number of pupils in the higher forms of primary schools.

Any further decrease in enrolment in the higher forms of primary education not being possible, future increases in enrolment in any one type of secondary education will have to be at the expense of the other types. Competition in this sense between primary and secondary education is being replaced by that between the different types of secondary education.

ANALYSIS OF GRAMMAR SCHOOL ENROLMENT

Regional changes

A. *Provinces*

Grammar school enrolment statistics are available as from 1930 for the 11 provinces in the Netherlands. Table 2 shows this enrolment as a percentage of the 12-17 age group for 1930 and 1959 (see also Graph 2).

TABLE 2. INCREASE IN GRAMMAR SCHOOL ENROLMENT AS A PERCENTAGE OF 12-17 AGE GROUP, BY PROVINCES AND SEX, 1930 AND 1959

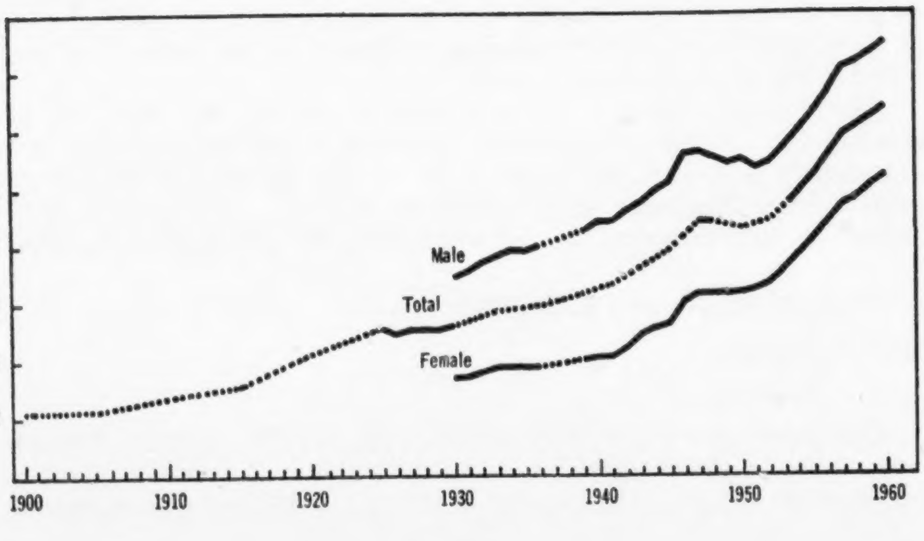
	MALE			FEMALE		
	1930	1959	1930-1959	1930	1959	1930-1959
	%	%	INDEX[1]	%	%	INDEX[1]
Groningen	6.3	14.0	222	3.2	8.9	258
Friesland	4.2	11.4	271	1.9	5.9	311
Drenthe	3.0	9.4	313	1.3	5.8	446
Overijssel	4.6	13.5	293	1.9	8.2	432
Gelderland	6.2	12.5	202	3.1	8.5	274
Utrecht	10.2	18.2	178	4.8	12.6	263
Noordholland	9.8	17.8	182	6.0	13.7	228
Zuidholland	7.7	15.2	197	3.6	11.1	308
Zeeland	5.5	15.3	278	2.0	9.3	465
Noordbrabant	3.9	12.8	323	1.4	9.0	643
Limburg	5.7	16.1	282	1.8	8.1	450
Netherlands	6.8	14.7	216	3.3	10.1	303

1. $\frac{\text{percentage 1959}}{\text{percentage 1930}} \times 100$.

Provinces with a low enrolment in 1930 show the biggest increase, indicating a levelling out of regional differences.

Graph 3 shows increases in grammar school enrolment for the various provinces over three periods. The curves, which follow as closely as possible the points referring to the given periods, indicate an increase in enrolment for all provinces (the curves representing the longer periods are placed higher on the graph). The slope is steeper the longer the period, indicating a continuous levelling out of regional differences in grammar school enrolment.

Graph 2. NUMBER OF PUPILS IN GRAMMAR SCHOOLS AS A PERCENTAGE OF 12-17 YEAR OLD POPULATION



The increase in the number of grammar school pupils can therefore be attributed to three factors : population increase (i.e. of the total number of the 12-17 age group), a general increase in enrolment rates and the levelling out of regional differences.

Table 3 shows the quantitative effect of these factors. It was assumed that the increase in the enrolment rates of the three provinces which had a high rate throughout the whole period would give a good estimate of the overall increase ; when this increase is exceeded by other provinces, a levelling out of regional differences is shown to take place.

TABLE 3. INCREASE IN GRAMMAR SCHOOL ENROLMENT BETWEEN 1930 AND 1959, BY CONTRIBUTING FACTOR

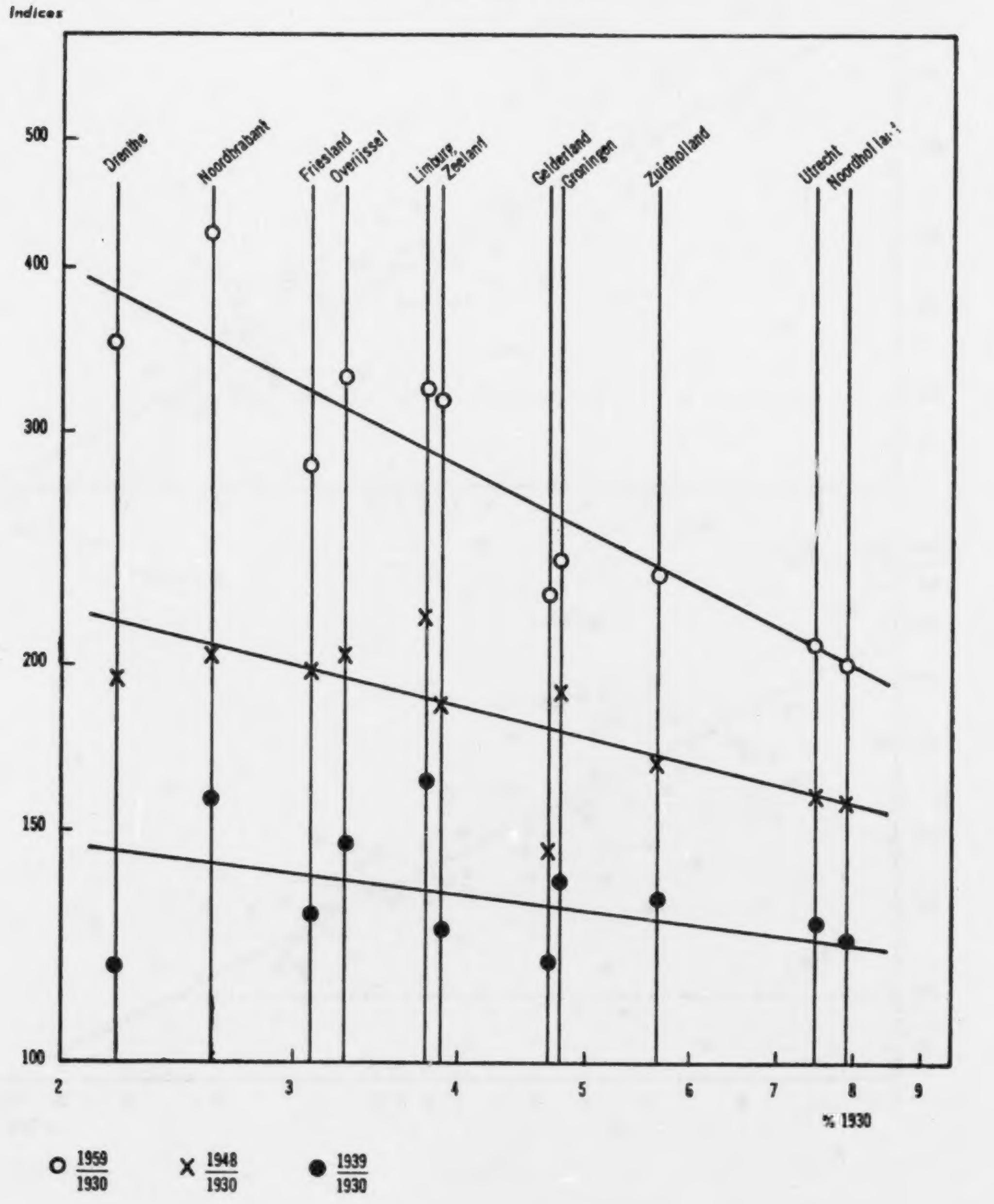
	MALE		FEMALE	
	NO	%	NO	%
Population increase	13,200	20	5,800	12
Increase in enrolment rate	39,000	60	32,500	68
Levelling out of regional differences	13,200	20	9,500	20
	65,400	100	47,800	100

Increased enrolment has been the main source of growth with the levelling out of regional differences and the population increase taking second and third place.

B. *Regions*

The Netherlands are administratively divided into 11 provinces and about 1,000 municipalities. As the number of provinces is too small for statistical surveys and that of municipalities too large, the country has been split up into some 100 regions each covering either one big municipality (towns) or several small ones. Care has been taken to include only similar

Graph 3. GRAMMAR SCHOOL ENROLMENT RATIOS IN 1939, 1948 AND 1959 AS A PERCENTAGE OF 1930 ENROLMENT, RATIOS BY PROVINCES



Graph 4. INCREASE FROM 1949 TO 1957 OF FIRST ADMISSIONS TO THE FIRST YEAR OF GRAMMAR SCHOOL AS A PERCENTAGE OF THE 12 YEAR OLD POPULATION

BASE 100 = PERCENTAGE OF FIRST YEAR ADMISSION IN 1949

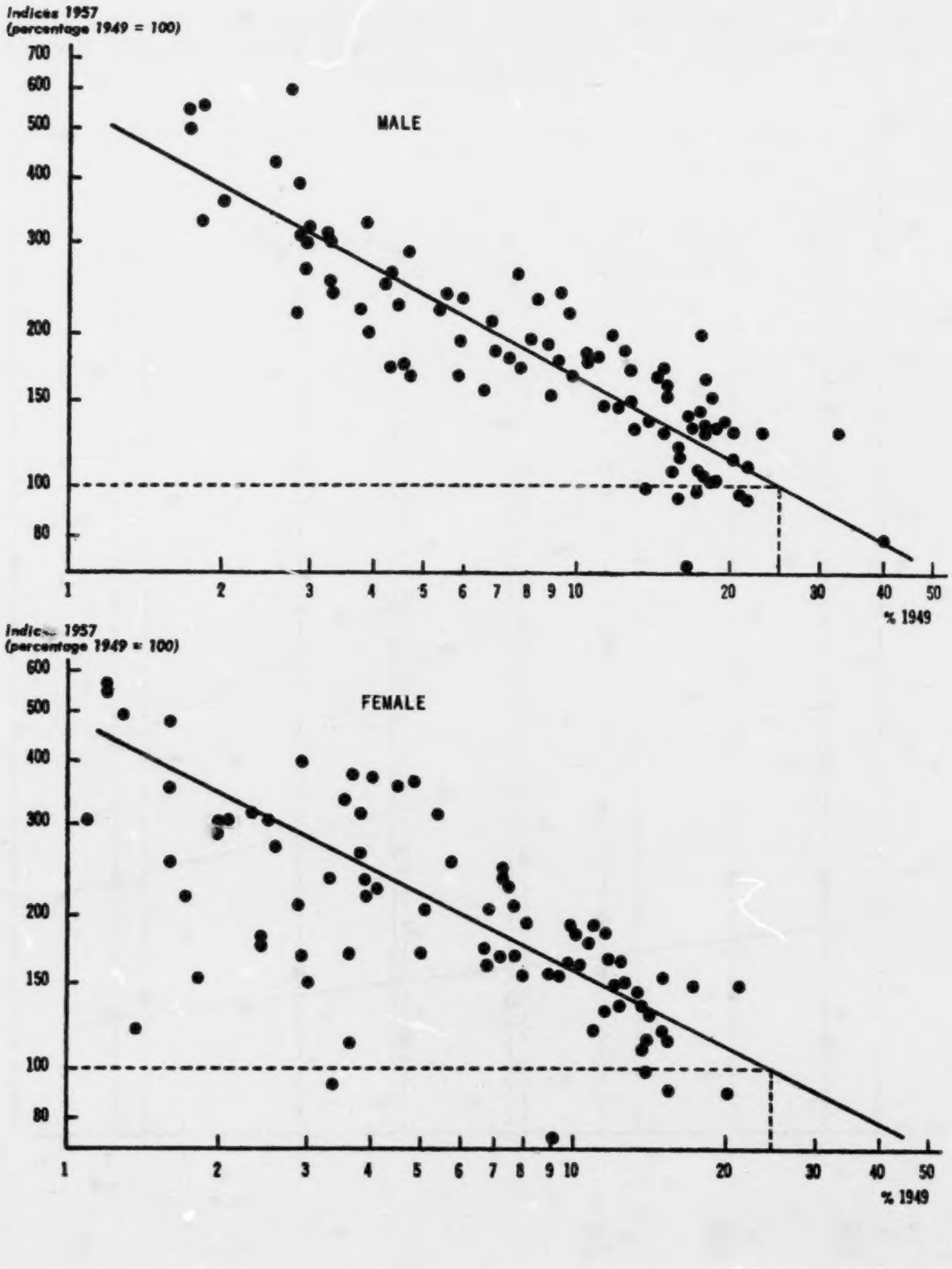


TABLE 4. FIRST ADMISSIONS TO FIRST YEAR OF GRAMMAR SCHOOL AS A PERCENTAGE OF THE 12 YEAR OLD POPULATION, BY CATEGORY OF URBANIZATION AND BY PROVINCE, 1949-1957

	RURAL			URBANIZED RURAL			SMALL TOWNS			LARGE TOWNS			RESIDENTIAL REGIONS		
	1949	1952	1957	1949	1952	1957	1949	1952	1957	1949	1952	1957	1949	1952	1957
a) MALES															
Groningen	4.2	4.9	7.4	3.1	4.5	6.9	—	—	—	15.9	15.3	18.6	—	—	—
Friesland	3.0	4.7	8.1	5.3	7.8	11.8	—	—	—	21.6	19.4	21.0	—	—	—
Drenthe	1.4	4.4	8.7	4.3	8.7	12.0	—	—	—	15.0	8.4	16.2	—	—	—
Overijssel	2.8	5.0	8.3	5.1	8.0	13.0	11.4	13.4	18.2	18.4	20.9	28.2	—	—	—
Gelderland	4.0	6.1	8.9	4.6	7.1	9.9	9.7	12.4	17.1	15.0	14.8	20.0	10.5	14.3	17.4
Utrecht	5.0	6.1	8.3	—	—	—	15.1	19.0	19.7	16.5	19.1	21.7	—	—	—
Noordholland	2.2	7.4	10.8	6.4	9.7	14.4	17.0	18.4	23.0	16.8	20.0	23.8	—	—	—
Zuidholland	5.3	6.5	9.8	5.3	7.3	11.0	12.9	13.6	19.1	19.1	21.1	26.1	21.9	33.4	37.9
Zeeland	8.3	14.3	16.7	10.6	16.6	14.7	21.3	21.3	23.8	17.4	16.7	18.6	—	—	—
Noordbrabant	3.5	4.6	8.7	5.1	7.7	10.4	9.7	13.2	16.9	13.3	16.9	21.4	—	—	—
Limburg	—	—	—	6.5	9.2	14.7	16.2	16.7	17.7	27.2	21.9	30.6	—	—	—
Netherlands	4.1	5.7	9.3	5.7	8.1	12.0	13.9	14.7	19.1	17.0	19.0	23.3	17.2	25.0	25.5
b) FEMALES															
Groningen	2.4	2.8	4.4	1.7	3.0	3.7	—	—	—	13.6	13.1	15.1	—	—	—
Friesland	1.4	2.9	4.0	2.9	3.5	4.8	—	—	—	13.9	11.3	15.7	—	—	—
Drenthe	3.1	2.4	3.8	2.5	4.1	7.0	—	—	—	10.8	8.2	13.1	—	—	—
Overijssel	1.9	2.8	3.3	3.5	5.1	7.0	6.2	9.0	12.9	9.9	13.5	18.3	—	—	—
Gelderland	2.0	3.6	7.2	2.2	3.4	5.9	7.2	8.5	11.6	11.7	13.4	17.9	5.9	8.4	11.3
Utrecht	3.7	5.2	6.4	—	—	—	7.2	14.1	17.1	11.4	13.1	14.2	—	—	—
Noordholland	0.6	1.5	6.5	3.4	5.2	10.0	13.8	14.8	17.0	13.0	13.7	18.4	—	—	—
Zuidholland	1.9	3.1	6.1	2.4	4.5	7.2	8.2	10.1	15.3	12.1	15.8	19.7	18.0	24.1	26.1
Zeeland	4.7	7.4	11.4	2.2	5.0	8.1	15.3	18.5	13.7	7.4	14.2	16.9	—	—	—
Noordbrabant	0.9	2.3	5.4	2.8	3.7	7.5	5.5	10.1	14.5	8.5	11.9	17.8	—	—	—
Limburg	—	—	—	3.2	3.4	6.2	9.3	13.3	14.7	18.4	12.4	17.1	—	—	—
Netherlands	2.1	3.5	5.4	2.8	3.9	6.8	8.4	10.9	15.4	12.2	14.0	17.7	11.6	17.4	20.6

municipalities in a given region so as to make the regions more or less homogeneous from an economic-geographic point of view. For these regions figures for first-year enrolment in secondary education are available for certain years as from 1949.

Graph 4 shows for the various regions the increase in the rate of first-year admissions to grammar schools from 1949 to 1957 as a percentage of the 12 year old population in relation to the 1949 percentage. The curves follow the points representing the regions as closely as possible. It also shows the existence of a strong tendency to level out regional differences in grammar school inflow rates, the increases being higher where the 1949 percentages were lowest, and that the increase was very low or non-existent in those regions where the rate was about 20-24 per cent in 1949, suggesting that the upper limit for this rate is about 24 per cent.

C. *Rural and urban regions*

The regions can be divided into various categories of urbanization. The five categories mostly used are rural, urbanized rural, small towns, large towns, and residential regions.

Tables 4*a* and 4*b* show first year admission rates to grammar schools as a percentage of the 12 year old population for the different categories of urbanization, with a breakdown by province.

Tables 4*a* and 4*b* show that the difference as between provinces for a given category of urbanization is not very large[1], indicating that the differences in enrolment rates as between provinces in general may to some extent be explained by the differences in the urbanization of the regions.

Table 4*a* bears out the statement above that the upper limit of inflow rates has been reached in big towns and residential regions.

These tables also show that there is a potential resource for the future expansion of grammar school enrolment, since in most of the rural areas the first-year entrants rate is much lower than that in Zeeland, for example. The same may be said for other categories, *mutatis mutandis*. In view of the rapid increase in enrolment in the past, these resources might be mobilised quickly.

Table 5 shows the increase in first-year admission rates in the different categories of urbanization for the period 1949-1957.

TABLE 5. BREAKDOWN OF THE INCREASE IN FIRST-YEAR ADMISSIONS TO GRAMMAR SCHOOLS FROM 1949 TO 1957 AS A PERCENTAGE OF THE 12 YEAR OLD POPULATION, BY CATEGORY OF URBANIZATION; INDEX 1949 = 100

TYPE OF REGION	MALE	FEMALE	TOTAL
Rural	227	257	239
Urbanized rural	210	243	226
Small towns	137	183	162
Large towns	137	145	141
	160	179	169

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[1] See also Table 2.

Further regional analysis

First-year admissions to grammar schools as a percentage of the 12 year old population varies considerably according to region, as indicated in Graph 5 and Table 6.

TABLE 6. NUMBER OF REGIONS ACCORDING TO GRAMMAR SCHOOL FIRST-YEAR ADMISSION RATE, 1957

ADMISSION RATE[1] (*Per cent*)	NUMBER OF REGIONS	
	MALE	FEMALE
40 and over	1	—
35 — < 40	2	1
30 — < 35	5	—
25 — < 30	14	3
20 — < 25	20	14
15 — < 20	17	14
10 — < 15	24	14
5 — < 10	5	33
0 — < 5	1	10
Total	89	89

[1] First-year admissions as a percentage of the 12 year old population.

Graph 5 is designed to show the factors which determine these differences, and data on income, urbanization, composition of the labour force, etc. were assembled for the regions with extreme first-year admission rates. These have been collated in Table 7, together with figures for the Netherlands as a whole.

Regions with high grammar school first-year admission rates also have high secondary modern school rates, but low technical and vocational education rates. In these regions income is high and also the percentage of professional and managerial occupations. They do not differ much from the low rate regions with regard to the percentage of non-agricultural employers and " workers on own account ". Regions with low enrolment rates for grammar schools are typically rural ; they show a low percentage of population living in towns and a high percentage of farmers and agricultural labourers. With this is correlated a low percentage of army recruits in intelligence class 1 and 2 and a high percentage of Reformed and Dutch Reformed. In low rate regions the distance to the nearest grammar school is greater than in regions with high rates.

The characteristics of high and low enrolment regions show that student inflow into grammar schools may be determined by many factors.

Further information concerning the correlation between grammar school first-year admission and possible determining factors is given in Table 8. Regions are here grouped in deciles and, for each decile, the average first-year admission rate and average value for the various factors are shown.

Grammar school first-year admission rates are correlated with almost all factors, but very strongly with the percentage of labour force in professional, managerial and clerical occupations, urbanization and percentage of army recruits in intelligence classes I and II.

Graph 5. FIRST ADMISSIONS TO GRAMMAR SCHOOLS AS A PERCENTAGE OF THE 12 YEAR OLD POPULATION, 1957

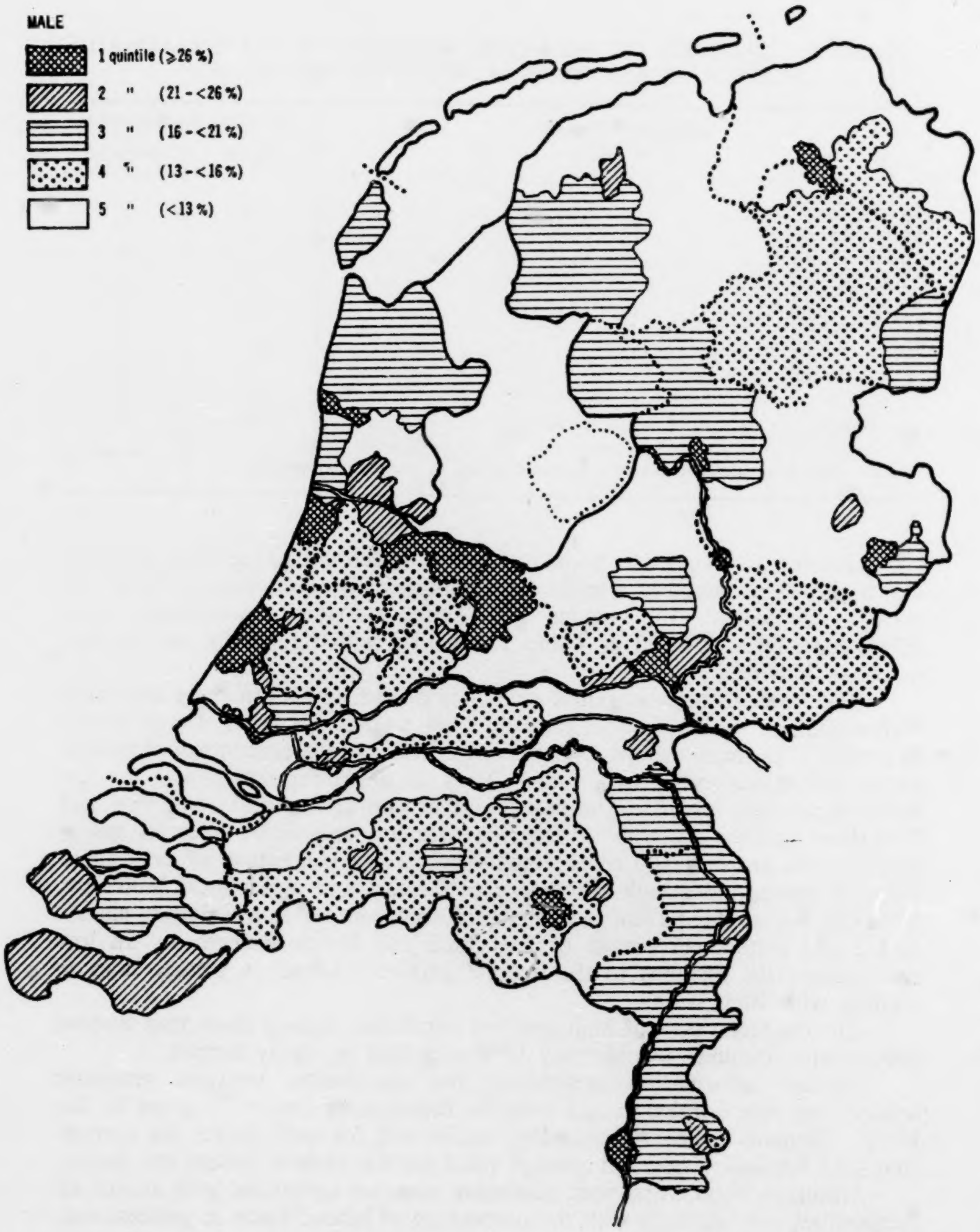
MALE
1 quintile (≥26 %)
2 " (21 - <26 %)
3 " (16 - <21 %)
4 " (13 - <16 %)
5 " (<13 %)

TABLE 7. CHARACTERISTICS OF REGIONS WITH EXTREME MALE GRAMMAR SCHOOL FIRST YEAR ADMISSION RATES, 1957

	18 REGIONS WITH		
	HIGH ENROLMENT RATES	LOW ENROLMENT RATES	NETHERLANDS
First-year admissions to grammar schools as a percentage of the 12 year old population	30	10	20
First-year admissions to secondary modern schools as a percentage of the 12 year old population	38	30	33
First-year admissions to secondary technical and vocational schools as a percentage of the 12 year old population	30	42	36
Average income per capita (guilders)	2,060	1,380	1,710
Per cent of taxpayers with income over 6,000 guilders	19	13	16
Per cent of taxpayers with income over 10,000 guilders	7	4	5
Per cent in labour force of :			
Professional and managerial occupations	19	4	10
Clerical workers	20	8	14
Non-agricultural employers	9	8	8
Non-agricultural workers on own account	10	11	10
Farmers	1	22	9
Agricultural labourers	1	9	4
Non-agricultural labourers	40	38	45
Per cent of population in towns of :			
> 100,000 inhabitants	54	—	30
> 50,000 "	70	—	40
> 20,000 "	85	—	50
> 10,000 "	90	4	56
> 5,000 "	93	20	64
Religious composition of total population in per cent :			
Catholic	35	28	38
Reformed	28	44	31
Dutch Reformed	8	17	10
Others and non-religious	29	11	21
Per cent of army recruits in intelligence classes :			
1 + 2 (30 per cent highest intelligence)	41	21	30
Average distance to nearest grammar school in km.	2	8	4

To give due weight to the differences in the labour force composition and at the same time to reduce the number of variables involved an index for this composition has been calculated as follows : the numbers in the various occupational groups in a given region were multiplied by the grammar school admission rates for the children in these groups — calculated for the country as a whole — and divided by the total number in all groups. This weighted average of the labour force composition for a region has been called the " social class index ".

TABLE 8. GRAMMAR SCHOOL FIRST ADMISSION RATE DECILES AND SOCIAL FACTORS, 1957 (MALES)

REGIONS GROUPED IN FIRST-YEAR ADMISSION RATE DECILES	DECILE AVERAGES									
	1	2	3	4	5	6	7	8	9	10
First-year admissions to grammar schools[1]	34	28	25	22	20	17	15	14	11	9
First-year admissions to secondary modern schools[1]	37	37	35	32	31	28	32	30	31	29
First-year admissions to secondary technical and vocational schools[1]	28	33	34	39	34	38	37	39	40	44
Average income per capita (*in guilders*)	2,090	2,110	1,795	1,630	1,650	1,400	1,520	1,440	1,490	1,260
Per cent of tax payers with income over 6,000 guilders	20	20	16	15	15	15	15	14	15	11
Per cent of tax payers with income over 10,000 guilders	8	8	5	5	5	5	5	4	5	3
Per cent in labour force of :										
Professional and managerial occupations	20	18	13	11	10	6	7	6	4	3
Clerical workers	20	17	17	14	13	10	11	10	8	7
Non-agricultural employers	10	11	8	8	8	8	8	8	9	7
Non-agricultural workers on own account	10	9	9	9	9	10	9	10	12	10
Farmers	1	3	2	4	6	20	18	16	20	26
Agricultural labourers	1	2	1	3	3	6	5	4	10	6
Non-agricultural labourers	38	40	50	51	51	40	42	46	37	41
Per cent of population in towns of :										
20,000 inhabitants and over	87	71	92	64	53	16	20	4	—	—
5,000 inhabitants and over	93	89	92	82	65	32	46	36	23	15
Religious composition of total population in per cent :										
Catholic	37	37	47	38	67	49	40	54	23	43
Reformed	27	30	23	31	17	29	38	30	50	36
Dutch Reformed	8	8	6	11	5	10	12	8	16	15
Others and non-religious	28	25	24	20	11	12	10	8	11	6
Per cent of army recruits in intelligence classes 1 and 2	42	39	37	36	30	23	26	25	24	18
Average distance to nearest grammar school in km.	1.5	3	1.5	3	5	9	7	9	12	15

1. As a percentage of the 12 year old population.

Table 9 gives simple correlations between grammar school admission rates, the social class index and other variables showing the best correlations on scatter diagrams.

TABLE 9. SIMPLE CORRELATIONS BETWEEN MALE GRAMMAR SCHOOL FIRST YEAR ADMISSION RATES AND SOCIAL FACTORS IN 90 REGIONS, 1957

REGRESSION EQUATIONS	CORRELATION COEFFICIENTS	STANDARD ERROR OF REGRESSION COEFFICIENT	
			AS A % OF REGRESSION COEFFICIENT
G = 9.04 SC —12.5	0.89	0.492	5
G = 1.11 PM + 7.7	0.85	0.073	7
G = 1.70 IC — 8.6	0.79	0.141	8
G = 0.17 U 5,000 + 9.7	0.75	0.016	9
G =—1.08 D +26.6	—0.74	0.104	10
G = 0.13 U 20,000 +14.1	0.72	0.014	10
G = 0.51 I 1 + 2 + 4.2	0.71	0.054	10
G = 1.30 T 6,000 — 0.75 ...	0.66	0.158	12

G = number of male first-year admissions as a percentage of males 12 years old.
SC = social class index.
PM = number of males in professional and managerial occupations as a percentage of male labour force.
IC = income per capita in 100 guilders.
U 5,000 = percentage of population living in towns of over 5,000 inhabitants.
D = average distance to nearest grammar school in km.
I 1 + 2 = per cent of army recruits in intelligence classes I and II.
T 6,000 = per cent of tax payers with an income of 6,000 guilders or more.
U 20,000 = percentage of population in towns over 20,000 inhabitants.

The social class index gives the best " explanation " of grammar school first-year admission rates. This explanation might be improved by taking more factors into account.

The results of some of the tests in which combinations of the social class index and other variables were used to explain the regional differences in grammar school first-year admission rates are shown in Table 10.

The introduction of other variables produces only insignificant improvements to the correlation coefficient. The social class index alone gives as good an explanation as any combination of this index and other variables. This does not mean, however, that the other factors have no influence at all — they just do not improve the explanation. The regression coefficients, standard errors and magnitude of the various factors give the impression that distance has no influence (unstable regression coefficient, large standard error) ; the same holds for intelligence. The influence of the urban/rural factor is small and just the opposite of what was to be expected. Income might have considerable influence, and the number of secondary modern schools as a percentage of grammar schools very little.

It might be argued that, as a consequence of the high degree of correlation between the social class index and other factors, the influence of these factors cannot be measured correctly. It is also possible that a given factor might have a different effect in regions with a different social class index.

TABLE 10. MULTIPLE CORRELATIONS BETWEEN MALE GRAMMAR SCHOOL FIRST YEAR ADMISSIONS AND SOCIAL FACTORS IN 90 REGIONS, 1957

	SC	D	SMS	I 1 + 2	T 6,000	U 20,000	RU	CON-STANT	REGRESSION COEFFICIENT
G =	9.04 (5)							—12.5	0.89
G =	7.51 (9)	—3.5 (32)						— 4.9	0.90
G =	7.4 (9)	—1.4 (90)	—0.47 (33)					— 4.2	0.91
G =	7.8 (11)	—1.6 (81)	—0.46 (35)	—0.039 (144)				— 4.3	0.91
G =	5.5 (20)	—4.3 (35)	—0.36 (42)	—0.07 (76)	—0.47 (32)			— 8.9	0.92
G =	7.5 (9)	—3.2 (91)	—0.45 (35)			—0.02 (146)		— 2.5	0.91
G =	7.8 (9)	—3.2 (62)	—0.46 (34)				0.03 (86)	— 5.1	0.92
AVERAGE VALUES OF FACTORS									
19.5	3.5	0.6	3.8	30.2	15.6	40.9	42.5		

SMS = No. of secondary modern schools as a percentage of No. of grammar schools.
D = average distance in log km.
RU = percentage of people living outside towns of 5,000 or more inhabitants.

For other variables see Table 9. Figures between brackets show standard errors in percentage of regression coefficients.

TABLE 11. CORRELATIONS BETWEEN SOCIAL CLASS INDEX AND OTHER SOCIAL FACTORS

FACTOR	REGRESSION COEFFICIENT	FACTOR	REGRESSION COEFFICIENT
D	—0.72	RU	—0.78
SMS	—0.52	IC	0.72
I 1 + 2	0.80	Ca	—0.15
T 6,000	0.71	Re	—0.12
U 20,000	0.72	DR	—0.09

Ca = per cent of Catholics in the population.
Re = per cent of Reformed.
DR = per cent of Dutch Reformed.
See Tables 9 and 10 for the other variables.

The social class index is closely correlated with almost all factors except religious.

To overcome the problems of intercorrelation mentioned above the analysis was repeated for five groups of regions with the same social class index. It was then seen that the various factors had no influence apart from the number of secondary modern schools as a percentage of the number of grammar schools, where influence was slight.

This lengthy analysis therefore shows that regional differences in grammar school student inflow are determined by differences in the occupational distribution.

Social composition of total grammar school student inflow first-year admission

The sharp increase in grammar school rates (Table 1) was accompanied by very small changes in the social composition of first-year entrants, as measured by fathers' occupation.

TABLE 12. FIRST-YEAR ENTRANTS TO GRAMMAR SCHOOLS, BY SOCIAL CLASS (PER CENT)

SOCIAL CLASS	MALE			FEMALE		
	1942	1949	1960	1942	1949	1960
Upper[1]	24	25	24	35	35	30
Middle[2]	51	52	51	46	49	52
Lower[3]	23	21	23	17	14	16
Unknown	2	2	2	2	2	2
Total	100	100	100	100	100	100

1. Professional and managerial occupations, army officers, owners of big firms, higher ranks in civil service, professors, etc.
2. Owners and managers of small and medium sized firms, primary school teachers, warrant officers, employees in middle grades, etc.
3. Skilled and unskilled industrial labourers, lower grade clerks, etc.

The social composition of female first-year entrants has become more like that of males. This may be due to the fact that their first-year entrance rate increasingly approaches that of males.

The following table shows first-year admission rate by social class.

TABLE 13. FIRST-YEAR ADMISSIONS TO GRAMMAR SCHOOLS AS A PERCENTAGE OF THE 12 YEAR OLD POPULATION BY SOCIAL CLASS

SOCIAL CLASS	MALE			FEMALE		
	1942	1949	1960	1942	1949	1960
Upper	45	50	67	36	45	63
Middle	14	15	25	7	9	19
Lower	4	4	7	2	2	4
Total	10	11	17	6	7	13

In Table 14 it is seen that the increase in the first-year admission rate shows slight differences for the three social classes.

TABLE 14. RATE OF FIRST-YEAR ADMISSIONS[1] TO GRAMMAR SCHOOLS IN 1960 AS A PERCENTAGE OF THAT IN 1949

SOCIAL CLASS	MALE	FEMALE
Upper	135	142
Middle	160	207
Lower	150	190
Total	157	175

[1] As a percentage of the 12 year old population.

Some occupational groups show a high rate of first-year admissions. (Table 15) :

TABLE 15. FIRST-YEAR ADMISSIONS TO GRAMMAR SCHOOLS AS A PERCENTAGE OF THE 12 YEAR OLD POPULATION, BY OCCUPATIONAL GROUP OF FATHER AND BY SEX, 1960

	MALE	FEMALE	FEMALE AS % OF MALE
Professional occupations	85	80	94
Employees : higher grades	85	79	93
middle "	68	56	82
low "	20	12	60
Teachers	59	52	88
Owners of firms : with personnel	23	20	87
without personnel	9	5	56
Farmers : with personnel	15	10	67
without personnel	4	2	50
Non-agricultural labourers	5	2	40
Agricultural labourers	4	1	25

Female rate is lower than male, but the difference is smaller where the male rate is high.

Grammar school enrolment by intelligence and social-economic groups

Each year all 19 year-old males undergo a medical and psychological examination for military service. The conscripts are also questioned concerning their educational level, occupation of father, religion, etc. This material provides additional information on grammar school enrolment tendencies. The following tables show some of the results of a sample survey of 5,000 conscripts.

The table shows that participation in grammar school education has been dependent on the occupation (social class) of the father and on intelligence. Even in the same intelligence class great differences in participation in grammar school education among 19 year-olds can be observed between the various family occupational groups. This is the reason why the multiple regression analysis of regional differences in grammar school first-year admission rates showed intelligence to have no significant influence on these rates.

TABLE 16. THE 19 YEAR-OLD MALE POPULATION WITH GRAMMAR SCHOOL EDUCATION AS A PERCENTAGE OF ALL 19 YEAR OLD MALES, BY OCCUPATION OF FATHER AND DEGREE OF INTELLIGENCE, 1962

FATHERS' OCCUPATION	INTELLIGENCE CLASS							TOTAL	NO. OF PERSONS
	1	2	3	4	5	6	UN-KNOWN		
Professional, managerial	71	45	39	28	17	—	37	49	311
Employees middle and lower	38	26	13	11	3	—	18	23	801
Employers	37	21	8	2	—	—	4	13	922
Self-employed	24	18	7	8	—	—	—	12	328
Labourers	12	7	2	1	—	—	3	4	2,069
Unknown	22	13	7	3	—	—	4	8	356
Total	33	18	7	4	1	1	[illegible]	13	
No. of persons	717	1,427	998	653	529	242	221		4,787

Table 17 gives a breakdown by urban and rural areas of grammar school participation of 19 year-olds coming from the various occupational groups and the three highest intelligence classes.

TABLE 17. THE 19 YEAR-OLD MALE POPULATION WITH GRAMMAR SCHOOL EDUCATION AS A PERCENTAGE OF ALL 19 YEAR-OLD MALES, BY OCCUPATION OF FATHER, INTELLIGENCE, AND URBAN AND RURAL AREAS, 1962

	INTELLIGENCE CLASS					
	1		2		3	
	URBAN	RURAL	URBAN	RURAL	URBAN	RURAL
Professional, managerial	70	75	46	42	50	17
Employees, middle and lower	38	39	24	29	12	15
Employers	48	28	29	18	13	6
Self-Employed	27	21	23	14	5	8
Labourers	12	11	9	5	3	2
Unknown	20	23	12	15	—	16
Total	35	28	20	16	8	6
No. of persons	457	260	771	656	481	517

For the various occupational groups no systematic difference in grammar school participation can be seen as between urban and rural areas[1]. This is in accordance with the findings of the multiple regression analysis where no specific influence of the rate of urbanization on grammar school first-year admission rate could be calculated when the influence of differences in occupational composition (social class index) was also taken into account.

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[1] Only " employers " show a difference. This will be due, however, to the fact that this group also includes farmers and therefore is not homogeneous in urban and rural areas.

Differences in grammar school student inflow and participation as between urban and rural areas are thus a reflection of differences in occupational distribution only.

This model did not work satisfactorily. We saw that provinces show different growth patterns for grammar school enrolment, and that the percentage of freshmen going to the various universities varies according to province. The increase in the number of freshmen at the different universities was therefore determined by the increase in grammar school enrolment in these provinces. This is the starting point for the following model.

The most elaborate model starts with regional forecasts of grammar school enrolment and numbers of grammar school graduates with required breakdowns by type of certificate and sex. The results of these forecasts can be summarized in a table showing number of grammar school graduates with a breakdown by region, year and sex (outflow table).

The other table used — based on the most recent material available — shows the number of freshmen as a percentage of grammar school graduates with a breakdown by region, university faculty and sex (inflow matrix). By multiplying this table by that mentioned above (after appropriate summation) the number of freshmen per university and faculty in successive years can be obtained.

Up to this stage the model assumes that everything will remain constant except grammar school enrolment in the various regions.

This is realistic in so far as we have seen that graduates form a constant percentage of first year enrolments in grammar schools and that transfer of grammar school graduates to the university is also constant.

The following changes may be expected however :

1. an increase or decrease in the number of freshmen — as a percentage of grammar school graduates — in some faculties, since some adaptation to estimated demand for graduates is expected ;
2. new universities will be opened and additional faculties added to existing universities.

Analysis of stagnation

Graph I shows that after a rapid increase in the grammar school first-year admission rate up to 1957, no further increase is apparent (especially for boys).

This stagnation of first year grammar school inflow rate will lead to a stagnation in the number of certificated grammar school leavers in 1963 (six years after 1957) as a percentage of the 18 year old population, and in 1970 (seven years after 1963) to a stagnation in the output of university graduates as a percentage of the 25 year old population. As the development of the economy requires an increasing proportion of certificated grammar school leavers this stagnation — if continued — will create very serious problems.

This stagnation has aroused a great deal of interest and heated debate among those interested in long-term educational forecasts. As the causes of this stagnation are of the utmost importance when making long-term forecasts of grammar school and university enrolment, some of the theories put forward and the criticisms they make are mentioned below.

A. *Labour market theory*

Some are of the opinion that in a situation of full employment in which everyone — regardless of type and length of training undergone — has a wide range of occupational possibilities, the motivation to undertake a long and strenuous grammar school course is weakened. This would lead to stagnation or even to a decrease in the grammar school enrolment rate.

Since the end of World War II, however, there always has been, generally speaking, a state of full employment accompanied by increasing grammar school enrolment rates, so that the labour market theory does not cover the facts over a long period.

B. *Consumers' society theory*

Some hold that society today can be characterised as a consumers' society in which rising income is being increasingly spent on consumption goods rather than for productive purposes (savings, investment, education). People would prefer television sets to further education for their children.

Up to now, however, increasing per capita income has been accompanied by increasing grammar school enrolment rates ; a larger proportion of people with higher income send their children to grammar schools, and inter-country comparisons also show a positive relation between enrolment and per capita income[1].

C. *Technical education theory*

There is a feeling that during the past ten years jobs requiring technical training have been better paid than those requiring the more academic training provided in secondary modern and grammar schools. This might influence the distribution of children in the various types of schools and especially those of the lower social classes. This would result in lower enrolment rates in grammar schools and higher rates in lower technical and vocational education, but Table 1 does not show any evidence of such a trend.

D. *Reserve theories*

Three types of reserve theory have been advanced.

1. The first is as follows : all secondary schools recruit their pupils from the 12-13 year-old age group. When all the 12-13 year olds (or all those mentally and physically capable of doing so) receive a secondary education, no further increase in enrolment in any of the three sectors (grammar, secondary modern or technical) is possible. After 1957, in fact, no further increase in enrolment was possible in secondary education as a whole (see section 3, Development of full-time secondary education). But is this also true for grammar school enrolment ? This theory considers the three types of secondary education as being non-competitive, but is true only up to a certain point. Although the social composition of the pupils in the various types of secondary education differs, there

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[1] See *Policy conference on economic growth and investment in education, II Targets for education in Europe in 1970*. OECD, Paris, 1962, diagram 5.

is also considerable overlapping. Upper class children will be sent to grammar schools (with only a few exceptions), but lower class children (even with the same intelligence score) are found in all types of schools and so for these groups the various types of secondary schools are competitive. As grammar schools still have a prestige value there is no reason to doubt that grammar school enrolment will increase. This will be accompanied by a decrease in enrolment in other types of schools.

2. Others consider that all intelligent children are already in grammar schools so that no further increase is possible. Table 16, however, which permits grammar school reserves to be calculated does not bear this out. The removal of all social and psychological barriers to transfer from primary to secondary education would increase the average enrolment in grammar schools from 33 per cent, 18 per cent and 7 per cent in intelligence classes 1, 2 and 3 respectively, to those of the top social class (professional and managerial occupations) namely 71 per cent, 45 per cent and 39 per cent. This indicates a reserve numerically higher than those already attending grammar schools.
3. The most recent reserve theory draws its conclusions from the Tables 12-15 presented in section 3. The line of reasoning is as follows : Table 14 shows that the increase in the enrolment rates does not differ much for the various social classes. It follows, therefore, as there has been no further increase in the grammar school first-year admission rate for all 12-year-olds, that Table 15, which shows the situation in 1960, also shows that for 1957. Table 13, however, shows that in 1949 there was still a reserve for grammar school education amongst children of the upper social class and which subsequently attended grammar schools. This resulted in very high first-year admission rates for some occupational groups in 1957 (Table 15), for example 85 per cent for children whose fathers were in professional and managerial occupations and higher grade employees. The same percentage will also be reached for some sections of middle-level employees and the teaching profession, two rather heterogeneous groups. Further increase does not seem possible for these groups. As the number of pupils in these groups constitutes about 50 per cent of the total grammar school population, it can be deduced that, as from 1957, the increase in grammar school student inflow should fall to 50 per cent of what it was before 1957. This theory gives a 50 per cent explanation of the causes of stagnation in grammar school student inflow ; the question still remains as to why groups which have not yet reached the top level have shown no further increase.

FORECASTING MODELS

Existing models

In the course of time various forecasting models have been used, and are mentioned below. They are based on the analysis of grammar school student inflow or first-year admission rates as presented in the previous section 3.

1. The first model was based on a trend extrapolation of the grammar school enrolment ratios. As this is commonly used no further details will be given. This model worked quite well up to 1957, when stagnation in grammar school inflow rates and enrolment began.
2. A second model was based on a trend extrapolation and a maximum boundary was set for grammar school student inflow. This boundary was found by extrapolating the first-year admission rates in the three types of secondary education. It was assumed that the year the sum of these extrapolated rates equalled 100 per cent of the 12 year old population (minus deductions for mentally and physically retarded children, etc.) the maximum rate for grammar school education would be reached. This model has given fairly satisfactory results up to the moment, but we now think on the basis of an inadequate theory, and is therefore not used any more. For further comments on the theory underlying this model, reference is made to what has been said above under the reserve theory, number 1. Models 1 and 2 were used to forecast grammar school enrolment as a whole.
3. A model used to forecast regional grammar school inflow and enrolment was based on the 1957 figures shown in Tables 4*a* and 4*b*. It was assumed that, within the forecasting period (1959-1974), regional differences within the various urbanization categories would be levelled out, i.e. that all the lower percentages would be equal to the highest attained in one of the regions within a given urbanization category. The theory behind this model was that any regional differences in grammar school first-year admission rates would disappear as a consequence of levelling out the social and economic differences between regions in the same urbanization category. This model did not work satisfactorily in the short run as grammar school enrolment was already beginning to stagnate before the work was completed.
4. A further regionally differentiated model started with three basic elements :
   - *a*) the tendency to level out regional differences observed over a long period (see previous section and Graph 3) ;
   - *b*) a maximum boundary for grammar school inflow rates (see previous section), and
   - *c*) Tables 4*a* and 4*b*.

   The line of reasoning was as follows : as a consequence of levelling out social and economic differences, regional differences in grammar school first-year admission rates within urbanization categories would also be levelled out, and those between urbanization categories would decrease. It was therefore assumed that rural areas in 1974 (end of the forecasting period) would have the same rates as the prevailing average in urbanized rural areas, those of the latter areas would go up to the prevailing average in small towns, those in small towns would become those prevailing in big towns and in big towns and residential regions the maximum boundary would be reached (24 per cent).

   In practice this model also failed to give satisfactory short-term results.

5. Models 1-4 were either based on outmoded theories (as we now see it) or did not give satisfactory results. Therefore a new model was required when it became necessary for various reasons to have a university enrolment forecast for 1970 incorporating the latest developments in grammar school enrolment, and the transfer from grammar schools to universities.

   The average pupil takes about six years to complete grammar school, so that first-year admission rates had to be forecast for only two school years, namely 1963/1964 and 1964/1965. It was then decided that grammar school first-year admission rates in 1964 should be restored to the highest level attained in any recent year, or, if a definite trend could be seen, 1964 rates could be estimated by simple extrapolation.

   Graph 6 gives the results of this model, which is certainly the most sophisticated one as it does not pretend any knowledge of factors determining inflow into grammar schools; it is also the most unsatisfactory one from a scientific point of view.

It may work quite well of course, and in any case no significant deviation from the forecasts can be expected as it covers only two years.

Note. Some forecasts of university enrolment have implicitly made a forecast of grammar school enrolment. These models will be dealt with later on.

A possible new, long-term model

Clearly a new model for long-term forecasting will have to be made, into which all previous experience must be incorporated.

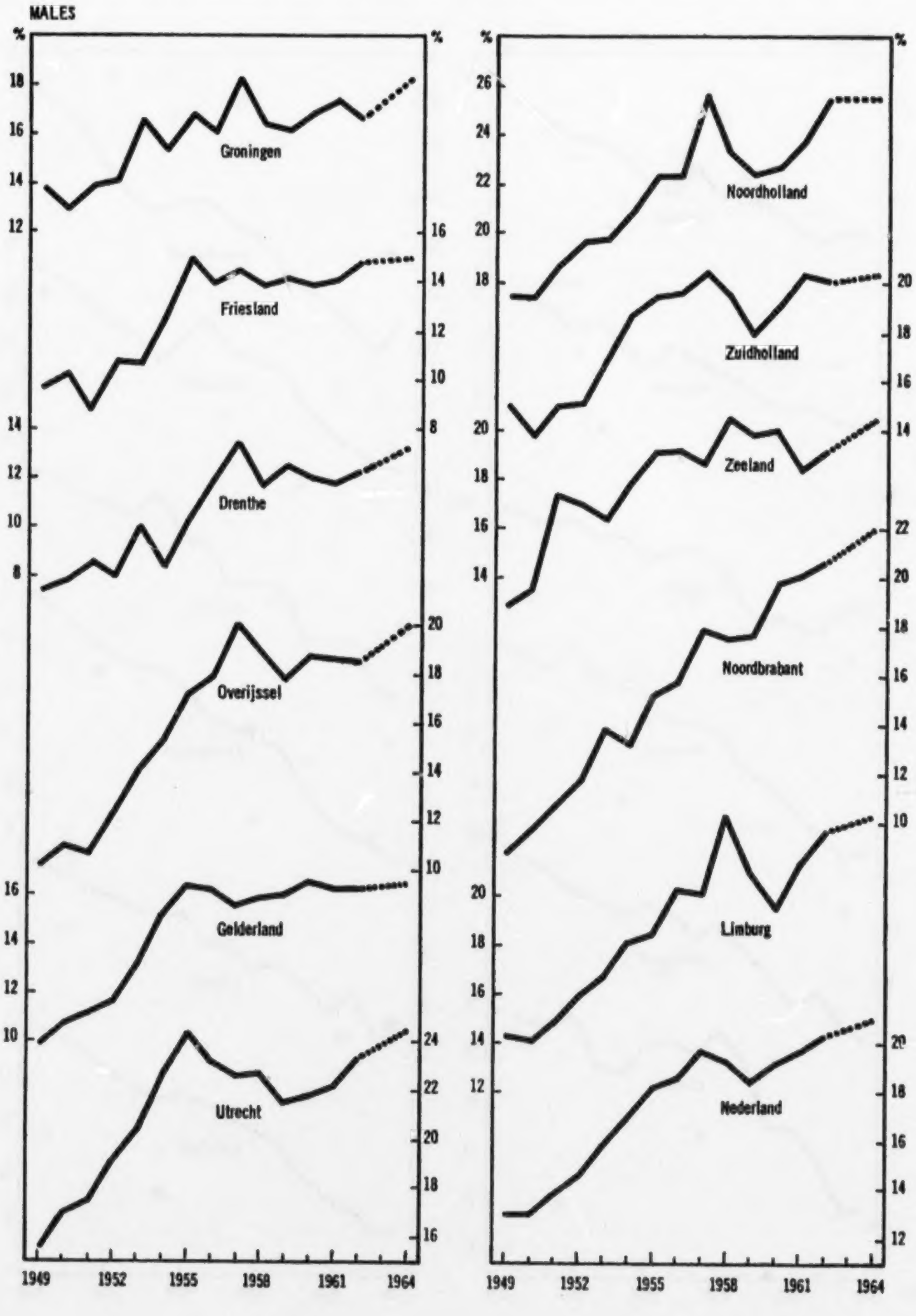
In the foregoing section various factors determining grammar school inflow were mentioned, including the levelling out of regional differences and the maximum boundary for grammar school enrolment, and the influence of the occupational composition of the labour force.

The large differences in grammar school first-year admission rates among the various occupational groups have remained so stable over time that regional differences are no more than a reflection of occupational distribution.

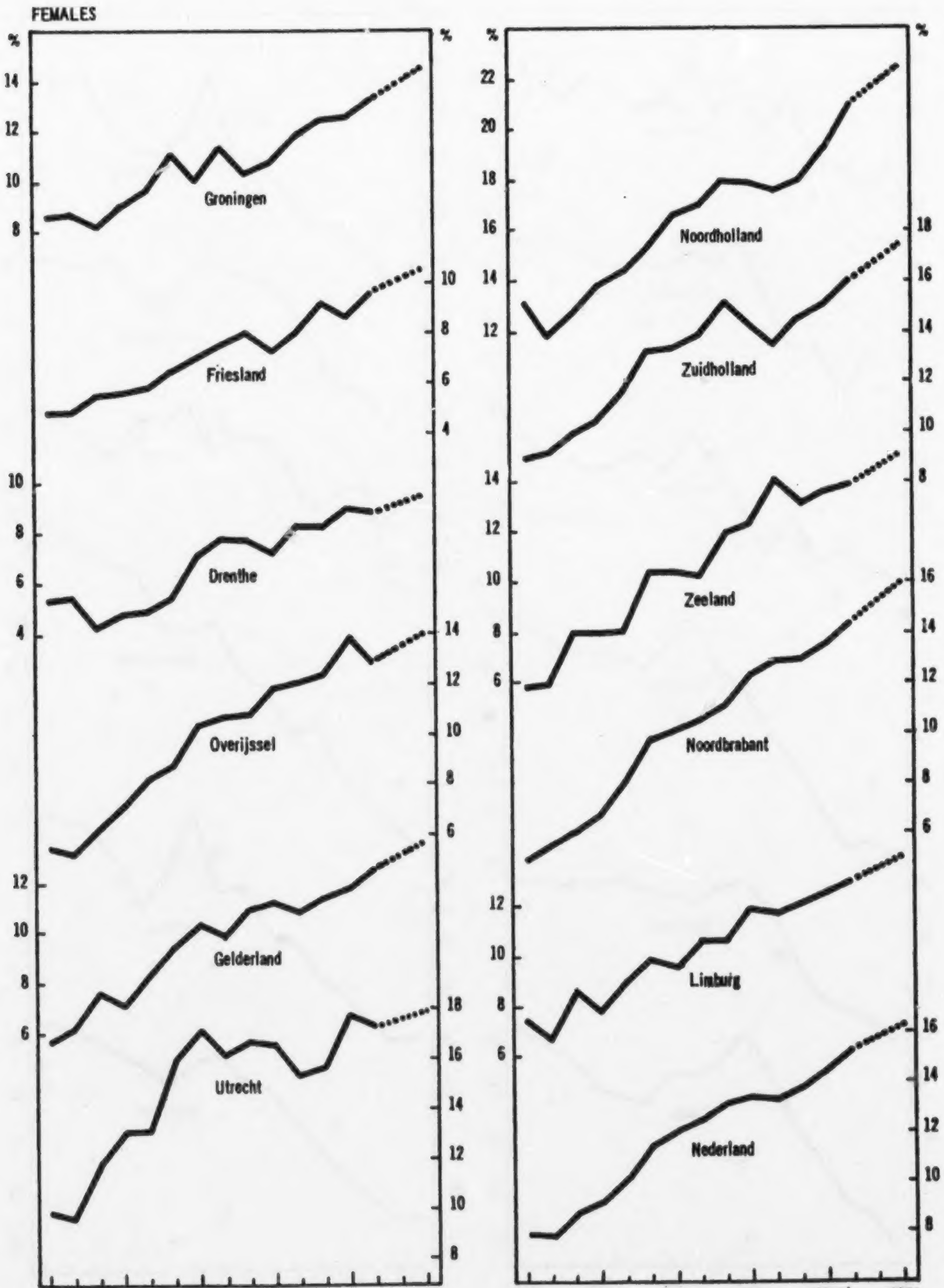
Similarly, it would not be surprising to find that the levelling out of regional differences in grammar school enrolment is purely a reflection of the levelling out of regional differences in occupational distribution. Full proof of this theory is possible only when the 1960 census gives the occupational distribution with a breakdown by regions comparable to the 1947 census, but a preliminary investigation into changes in the distribution of physicians over the country supports the hypothesis.

Neither would it be surprising if a maximum boundary for grammar school enrolment rate were found only in those regions where no changes in occupational distribution have occurred (in residential regions with a constant percentage of professional and managerial occupations with constant top-level enrolment rates) or in regions where the increase in enrolment rates in the occupational groups has been offset by an outflow of occupational groups with top-level participation rates. This may occur in big towns from which, since the war, there has been an outflow of professional and managerial personnel and of higher grade employees.

Graph 6. FIRST YEAR ADMISSIONS TO GRAMMAR SCHOOLS AS A PERCENTAGE OF THE 12 YEAR OLD POPULATION — PROVINCES



Graph 6a. FIRST YEAR ADMISSIONS TO GRAMMAR SCHOOLS AS A PERCENTAGE OF THE 12 YEAR OLD POPULATION -- PROVINCES



If this is true then the three factors determining grammar school enrolment are in reality one : the occupational distribution of the labour force. The new model therefore would have to forecast : (*a*) the future occupational distribution and the number of children within each occupational group ; (*b*) the inflow rate within each group to provide the total number of first-year enrolments in grammar schools.

(*a*) is not directly educational forecasting and we shall not discuss the problems raised. Concerning (*b*) — there are sufficient intelligence resources in the lower occupational groups for a further increase in grammar school inflow and enrolment (see previous section). Only when the increase in inflow for a given intelligence class and occupational group results in the same percentage as that now found for the highest occupational group is further increase impossible. A continuous decline in the increase in grammar school inflow rates can therefore be expected. As this sets a maximum boundary only, the question still remains as to the methods to be used to forecast the increase in the various occupational groups. It is again the results of analysis which will decide the method. The following will be undertaken shortly :

a) cross-section analysis of grammar school enrolment rates for the various occupational groups ;
b) a regional analysis of changes in grammar school enrolment rates of occupational groups over time ;
c) field research covering 20,000 sixth grade elementary school pupils concerning the factors determining grammar school enrolment in the various occupational groups.

The analyses might be restricted to male participation only, as there is a definite relationship between male and female enrolment in the various occupational groups. The higher the male enrolment, the smaller the difference between male and female enrolment becomes.

Should long-term forecasts prove necessary before these surveys are completed, the model would be based on four elements : occupational forecasts, trend increase in grammar school enrolment for the various groups, the maximum boundary now set by enrolment for the highest occupational group, and decreasing differences between male and female enrolment.

This model could be applied both to the country as a whole and to regions.

NOTE. In all OECD countries more intensive economic development requires an increase in grammar school enrolment. Enrolment for the lower occupational groups is much smaller than for the higher groups, so that most of the increase will have to come from the lower groups. A comparison among OECD countries of the inflow and enrolment rates for the various occupational groups might indicate the factors which determine enrolment and OECD could play a very useful part in this task.

FIRST-YEAR ADMISSIONS AND TOTAL SCHOOL ENROLMENT

After having estimated the number of first-year admissions, total enrolment is calculated with the help of the following table.

The calculation of total grammar school enrolment is shown below on the basis of a hypothetical inflow.

TABLE 18. PUPILS ATTENDING GRAMMAR SCHOOLS AS A PERCENTAGE OF THE CORRESPONDING NUMBER OF FIRST-YEAR ADMISSIONS BY NUMBER OF YEARS SINCE ADMISSION AND BY FORM (MALES)

IN FORM	NO. OF YEARS AFTER ADMISSION								
	1	2	3	4	5	6	7	8	9
1	25.0	0.5	—	—	—	—	—	—	—
2	64.0	37.0	5.5	0.5	—	—	—	—	—
3		45.5	34.0	10.5	1.5	—	—	—	—
4			34.5	28.0	10.5	2.5	—	—	—
5				25.0	23.0	10.5	3.0	0.5	—
6					9.0	6.0	3.0	0.5	0.1
	89.0	83.0	74.0	64.0	44.0	19.0	6.0	1.0	0.1

TABLE 19. FIRST-YEAR ADMISSIONS AND TOTAL ENROLMENT (MALES)

YEAR	NO. OF FIRST-YEAR ADMISSIONS	PUPILS BY NUMBER OF YEARS SINCE ADMISSION AS PERCENTAGE AND TOTAL NUMBERS									TOTAL ENROLMENT
		YEARS AND PER CENT									
		1	2	3	4	5	6	7	8	9	
		89%	83%	74%	64%	44%	19%	6%	1.0	0.1	
1949	100										100
1950	100	89									189
1951	100	89	83								272
1952	100	89	83	74							346
1953	200	178	83	74	64						599
1954	200	178	166	74	64	44					726
1955	200	178	166	148	64	44	19				819
1956	100	89	166	148	128	44	19	6			700
1957	100	89	83	148	128	88	19	6	1	—	662
1958	100	89	83	74	128	88	38	6	1	—	607
1959	200	178	83	74	64	88	38	12	1	—	738
1960	200	178	166	74	64	44	38	12	2	—	778

Table 18 was drawn up by keeping track of first-year admissions in 1949 through the grammar school[1].

The final data were collected in 1959.

It would be interesting to have similar tables for a number of first-year cohorts for analysing changes.

The breakdown by number of years since admission, in Table 19, and the estimated total enrolment make possible an estimate of the numbers in the different forms.

NUMBER OF CERTIFICATE HOLDERS LEAVING SCHOOL

The number of certificate holders leaving school can be calculated from the number of first-year admissions in the same way as was total enrolment; the following table is used :

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[1] For further details see : *Careers of grammar school pupils* in Dutch : *Schoolloopbaan van de leerlingen bij het v.h.m.o. (generatie 1949)*, Zeist 1960.

TABLE 20. BREAKDOWN OF NUMBER OF CERTIFICATE HOLDERS LEAVING SCHOOL AS A PERCENTAGE OF THE CORRESPONDING NUMBER OF FIRST-YEAR ADMISSIONS, BY NUMBER OF YEARS SINCE ADMISSION

	NO. OF YEARS SINCE ADMISSION					TOTAL
	5	6	7	8	9	
Male	13	21	12	4	1	51
Female	19	23	9	2	—	53

These data are available for one year only as they were also based on the 1949 admissions followed through 9 years of grammar school.

To analyse changes over time in the percentage of certificate holders leaving school, the number of leavers is expressed as a percentage of admissions 6 years earlier.

TABLE 21. CERTIFICATE HOLDERS LEAVING GRAMMAR SCHOOL AS A PERCENTAGE OF ADMISSIONS, SIX YEARS EARLIER[1]

YEAR CERTIFICATE GRANTED	MALE	FEMALE
1936-1940	61	51
1941-1945	67	60
1946-1950	62	57
1951-1955	57	54
1956-1960	58	58

1. The percentages are higher than in Table 20 due to differences in definitions.

No systematic changes are apparent, so that forecasts may be calculated on the basis of constant percentages of certificate holders leaving school. Similarly no differences were found in the various provinces, so that national percentages may also be applied regionally.

TABLE 22. PERCENTAGE OF MALE GRAMMAR SCHOOL-LEAVING CERTIFICATE HOLDERS BY TYPE OF SCHOOL AND STREAM

	GRAMMAR SCHOOL		MODERN GRAMMAR SCHOOL		COMMERCIAL DAY SCHOOL	TOTAL
	LANGUAGE SECTION	SCIENCE SECTION	LANGUAGE SECTION	SCIENCE SECTION		
1900	26	7	—	67	—	100
1910	16	7	—	67	10	100
1920	13	6	—	58	23	100
1930	11	7	16	54	12	100
1940	10	10	22	51	7	100
1950	9	11	22	54	4	100
1952	11	12	22	50	5	100
1954	11	13	22	49	5	100
1956	10	13	23	49	5	100
1958	12	12	25	47	4	100
1960	11	13	25	47	4	100
1961	10	12	24	51	3	100

The biggest changes occurred before 1930. After 1950 no systematic changes are apparent and most forecasts have therefore assumed a constant distribution of certificate holders leaving school.

TABLE 23. PERCENTAGE OF FEMALE GRAMMAR SCHOOL CERTIFICATE HOLDERS LEAVING SCHOOL, BY TYPE OF SCHOOL AND STREAM

	GRAMMAR SCHOOL		MODERN GRAMMAR SCHOOL		COMMERCIAL DAY SCHOOL	GIRLS MODERN GRAMMAR SCHOOL	TOTAL
	LANGUAGE SECTION	SCIENCE SECTION	LANGUAGE SECTION	SCIENCE SECTION			
1900	5	3	—	9	—	83	100
1910	9	4	—	39	10	38	100
1920	11	5	—	36	22	26	100
1930	16	5	14	37	11	17	100
1940	16	6	24	25	3	26	100
1950	14	9	25	22	1	29	100
1952	15	9	21	19	1	35	100
1954	15	8	21	18	1	37	100
1956	13	8	20	15	1	43	100
1958	13	8	17	16	1	45	100
1960	13	8	17	13	1	48	100
1961	11	7	17	15	1	49	100

Most of the changes took place before 1950 ; since then the percentage of " girls' modern grammar school " has continued to increase. Nothing is known about the factors governing this distribution and, as no one dares to have a theory concerning future changes in this distribution, recent percentages are also used in forecasts.

DEVELOPMENT OF UNIVERSITY EDUCATION

PARTICIPATION IN UNIVERSITY EDUCATION

Trends

General. The number of freshmen has grown considerably, both in total numbers and as a percentage of the 18 year old population.

TABLE 24. NUMBER OF UNIVERSITY FRESHMEN, 1900-1961

	NUMBER			AS PERCENTAGE OF 18 YEAR OLD POPULATION		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
1900	703	28	731	1.5	—	0.8
1910	970	129	1,099	1.8	0.3	1.0
1920	1,645	277	1,922	2.5	0.5	1.6
1930	1,970	498	2,468	2.7	0.7	1.7
1940	3,501	440	3,941	4.2	0.5	2.4
1950	3,715	726	4,441	4.3	0.9	2.7
1960	5,860	1,341	7,201	6.4	1.5	4.0
1961	6,550	1,310	7,870	6.8	1.4	4.1

Male students constitute about 7 per cent of the total number of 18 year old males. Female enrolment in the university is roughly only one-quarter of that of males.

Freshmen come mainly from day grammar schools.

TABLE 25. NUMBER OF FRESHMEN WITH GRAMMAR SCHOOL CERTIFICATE AS A PERCENTAGE OF TOTAL NUMBER OF FRESHMEN

1930	81.0	1950	81.7
1936	81.4	1960	85.4

In spite of the increased possibilities for university admission offered to graduates of engineering schools, teacher training institutes and higher agricultural schools, etc. their position in relation to the total number of freshmen has gone down.

Our analysis will be restricted to freshmen who have graduated from grammar schools, and will show the extent to which the increase in the number of freshmen is due (*a*) to the increased numbers of grammar school graduates or (*b*) to the increased proportion of graduates who enter the university.

Stimulating the transfer from grammar schools to the university. A. Since 1900, four new universities have been added to the seven then existing : the Netherlands School of Economics (1913), the Catholic University at Nijmegen (1923), the Catholic School of Economics (1927) and the Technical University at Eindhoven (1957), thus providing a more even distribution over the country and allowing catholics to attend a university of their own destination.

B. The continuous increase in the number of faculties and in the specialisations they cater for has offered a wider outlet for the diversified interests of grammar school leavers.

C. More faculties, both existing and new, have been made accessible to certificate holders from the different types of grammar schools.

TABLE 26. NUMBER OF FACULTIES ACCESSIBLE TO THE DIFFERENT TYPES OF GRAMMAR SCHOOL CERTIFICATE HOLDERS

CERTIFICATE HOLDERS FROM	NUMBER OF FACULTIES		
	1900	1930	1960
Grammar school — language section	4	7	9
Grammar school — science section	5	10	12
Modern grammar school — language section	—	2	4
Modern grammar school — science section	4	9	10

D. The number of scholarships has increased considerably, especially for the university.

TABLE 27. NUMBER OF SCHOLARSHIPS FOR THE UNIVERSITY

	NUMBER	AS A PERCENTAGE OF ALL UNIVERSITY STUDENTS
1900	18	0.6
1920	245	2.9
1934	505	3.9
1950	2,485	8.4
1955	4,223	14.2
1960	11,239	27.6

E. The changing distribution of leaving-certificate holders (see Tables 22 and 23) for the various types of grammar school will also influence the transfer to university education, since each type has an entry quota.

TABLE 28. BREAKDOWN OF FRESHMEN AS A PERCENTAGE OF GRAMMAR SCHOOL CERTIFICATE HOLDERS, BY TYPE OF SCHOOL, 1960

	GRAMMAR SCHOOL		MODERN GRAMMAR SCHOOL		TOTAL[1]
	LANGUAGE SECTION	SCIENCE SECTION	LANGUAGE SECTION	SCIENCE SECTION	
Male	78	90	29	65	60
Female	72	78	10	40	44

1. Freshmen as a percentage of all grammar school-certificate holders excluding those holding commercial day school and girls modern grammar school certificates which do not give access to university examinations.

Transfer from grammar school to the university. Table 29 and Graphs 7 and 8 show the number of university freshmen as a percentage of all certificated grammar school leavers from 1900 to 1960. Two sets of percentages have been calculated, one actual and the second hypothetical. The second of these percentages have been calculated to exclude the influence of the changing distribution of grammar school leavers holding various types of certificate. To that purpose numbers for the various types of certificated leavers were calculated since 1900 on the basis of the 1959 distribution, and multiplied by the respective transfer percentages. The number of freshmen thus calculated would have gone to the universities if the distribution of the grammar school leavers had remained constant and if the number of leavers per certificate going to the universities would have followed the actual proportions.

Graph 7 shows that, apart from the increase during World War I and in the boom years before 1930, the percentage for males went down continuously between 1900 and 1939. The 1952 percentage is as low as that of 1939, but, since 1952 there has been a sharp increase.

The female percentage rises until the end of World War I, then falls, to remain stable after World War II.

Graph 7. UNIVERSITY FRESHMEN AS A PERCENTAGE OF GRAMMAR SCHOOL CERTIFICATE LEAVERS

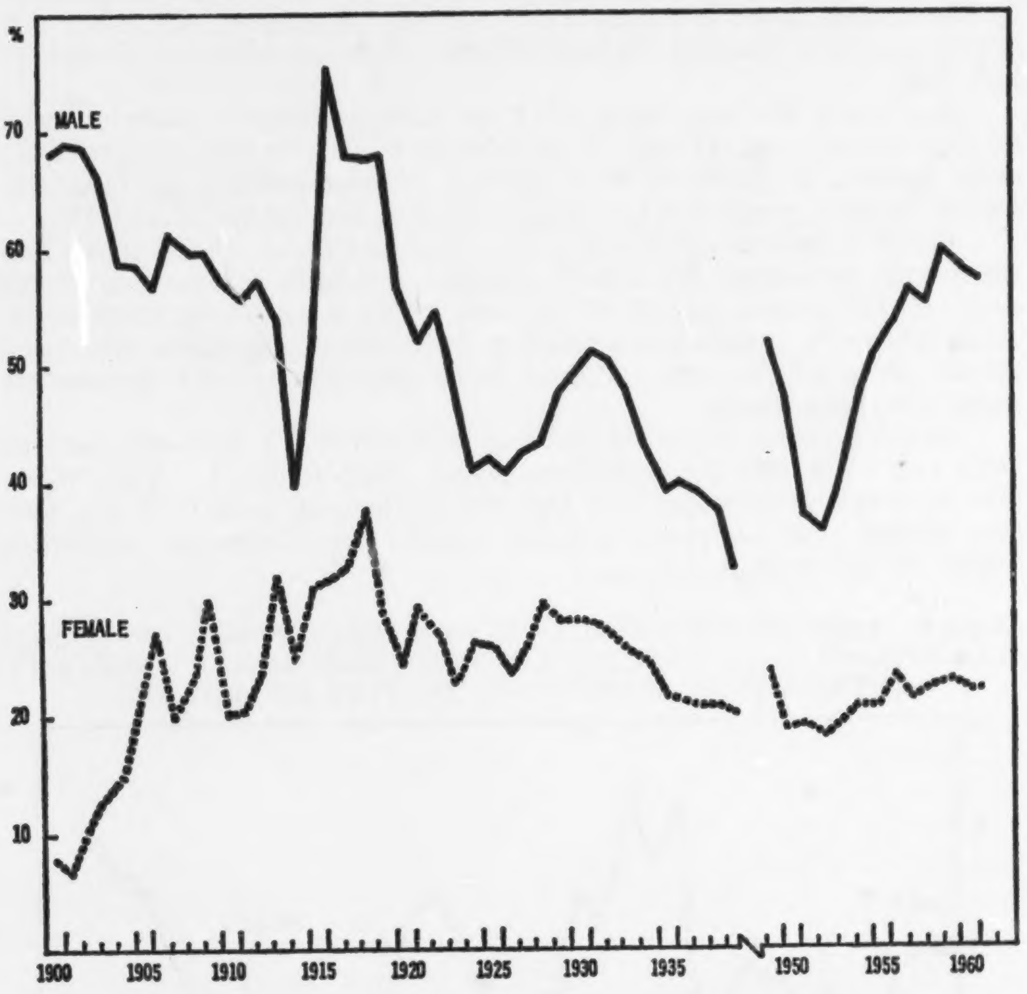


TABLE 29. NUMBER OF FRESHMEN AS A PERCENTAGE OF GRAMMAR SCHOOL CERTIFICATE LEAVERS

	ACTUAL		WITH CONSTANT DISTRIBUTION OF GRAMMAR SCHOOL LEAVERS ACCORDING TO TYPE OF SCHOOL	
	MALE	FEMALE	MALE	FEMALE
1900	68	8	49	17
1910	57	20	47	17
1920	56	24	54	20
1930	50	28	52	20
1939	32	20	42	15
1950	47	19	47	15
1959	60	23	60	23
1960	58	22	59	23

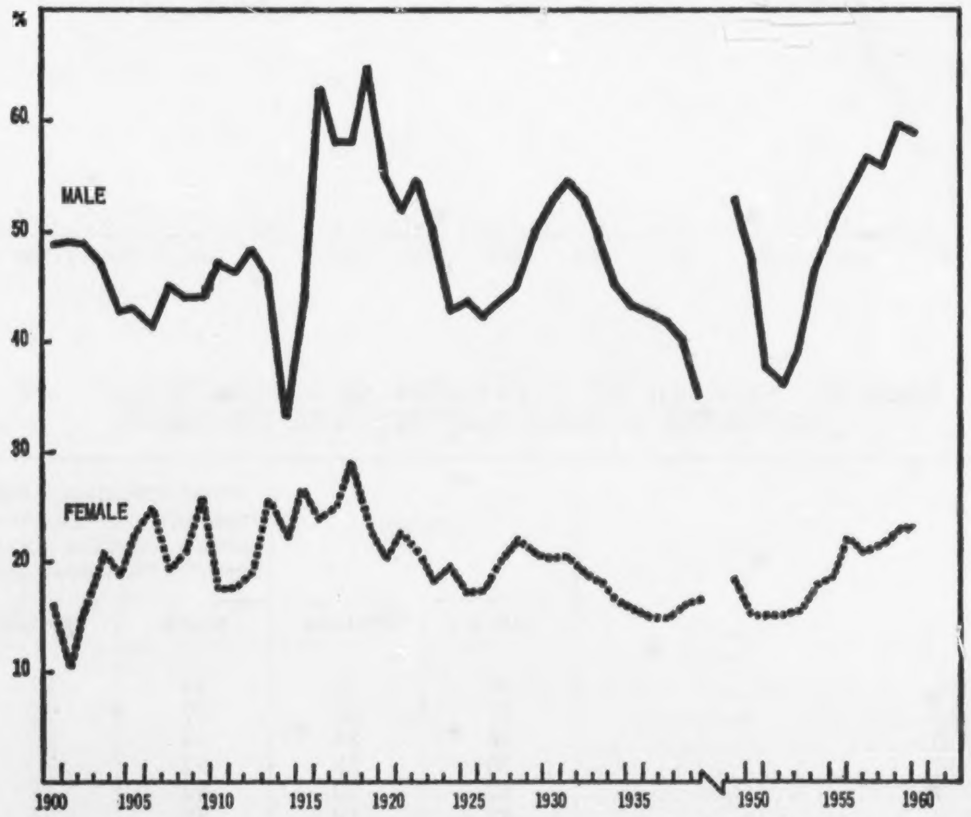
Graph 8 does not show the same decrease as Graph 7 in the percentage for males between 1900 and 1939, since this curve is not now influenced by the increase in the low transfer rate schools (commercial day school and modern-grammar language section) between 1900 and 1940 (see Tables 22 and 28).

For female students, up to 1918 the curve in Graph 8 shows a much slighter increase than in Graph 7, since Graph 8 does not take account of the sharp increase in graduates from the high transfer rate schools (grammar school, modern grammar school science section, see Tables 23 and 28).

Graph 8 (constant distribution according to type of school) shows that the transfer percentages for males oscillated between 40 per cent and 55 per cent, and for females around 20 per cent. This is surprising, since an increase was to be expected as a result of the stimulating measures mentioned above. Possibly, however, without these measures transfer percentages would have gone down.

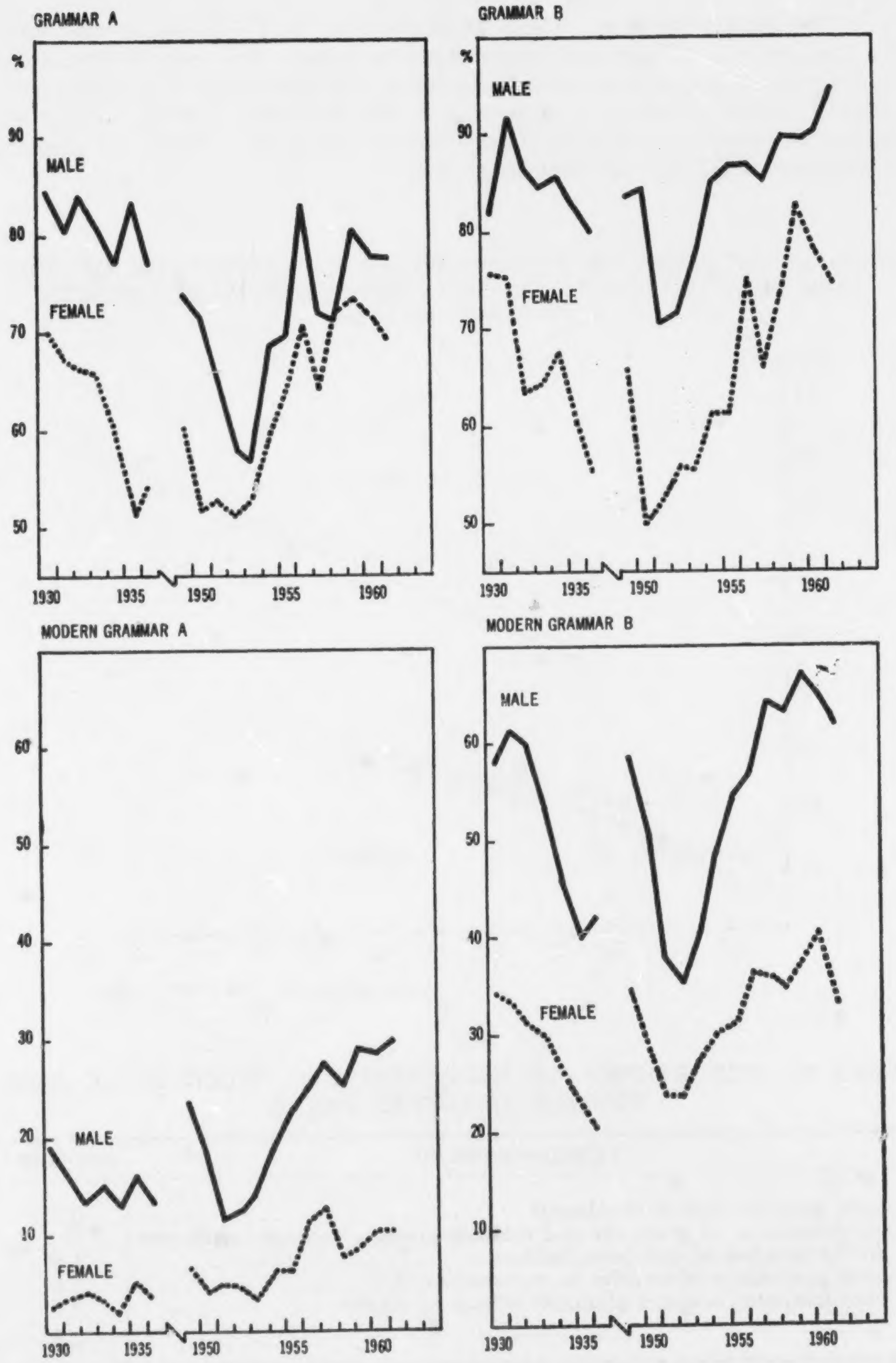
Graph 8 clearly shows the influence of World War I, the boom between 1925 and 1930, and the depression period which followed. After World War II, transfer percentages were high, fell continuously until 1952, and then rose sharply. No analysis of post-war transfer percentages has provided a reason for this cyclical movement.

Graph 8. UNIVERSITY FRESHMEN AS A PERCENTAGE OF GRAMMAR SCHOOL CERTIFICATED LEAVERS (ASSUMING A CONSTANT DISTRIBUTION ACCORDING TO TYPE OF SCHOOL)



Graph 9 shows that transfer percentage curves for the various types of schools follow the same trend as that for the total transfer.

Graph 9. UNIVERSITY FRESHMEN AS A PERCENTAGE OF GRAMMAR SCHOOL CERTIFICATED LEAVERS, TO TYPE OF CERTIFICATE



This analysis leads to the conclusion that the increase in the number of university freshmen is a consequence of the increasing number of grammar school graduates and not of an increase in the transfer rate from grammar school education to university education.

The female backlog. Table 24 shows that, in 1960, the transfer rate for females was 4.9 per cent lower than for males ; this may be explained by differences in grammar school enrolment, the percentage of grammar and modern grammar school graduates and the difference in the number of freshmen without a grammar school leaving certificate. Table 30 gives a breakdown of this 4.9 per cent difference.

Graph 10. NUMBER OF STUDENTS AS A PERCENTAGE OF THE 18-24 YEAR OLD POPULATION IN RELATION TO PER CAPITA INCOME, 1903-1960

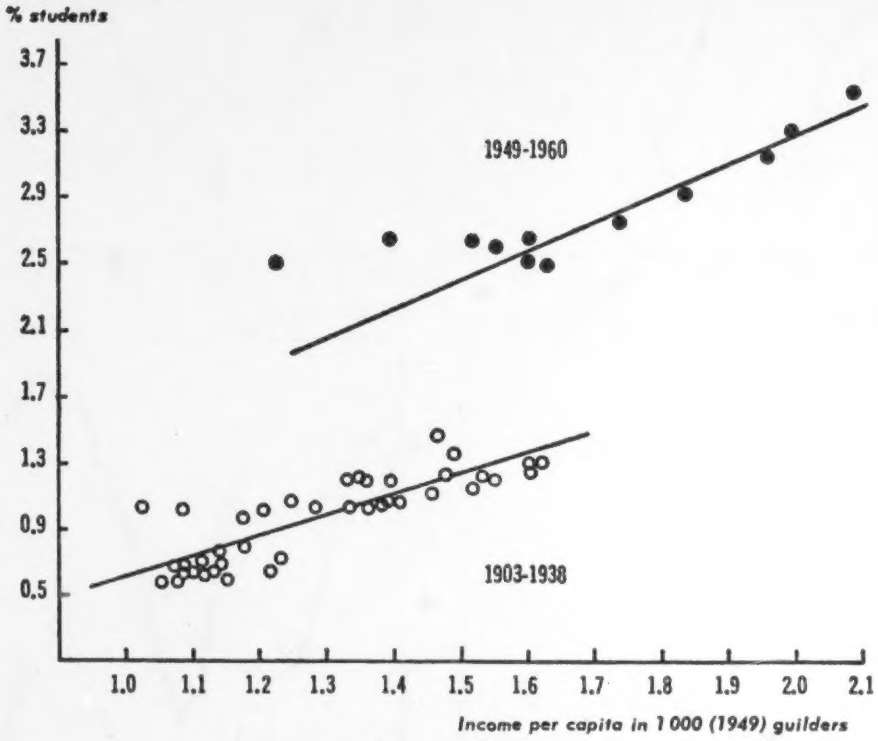
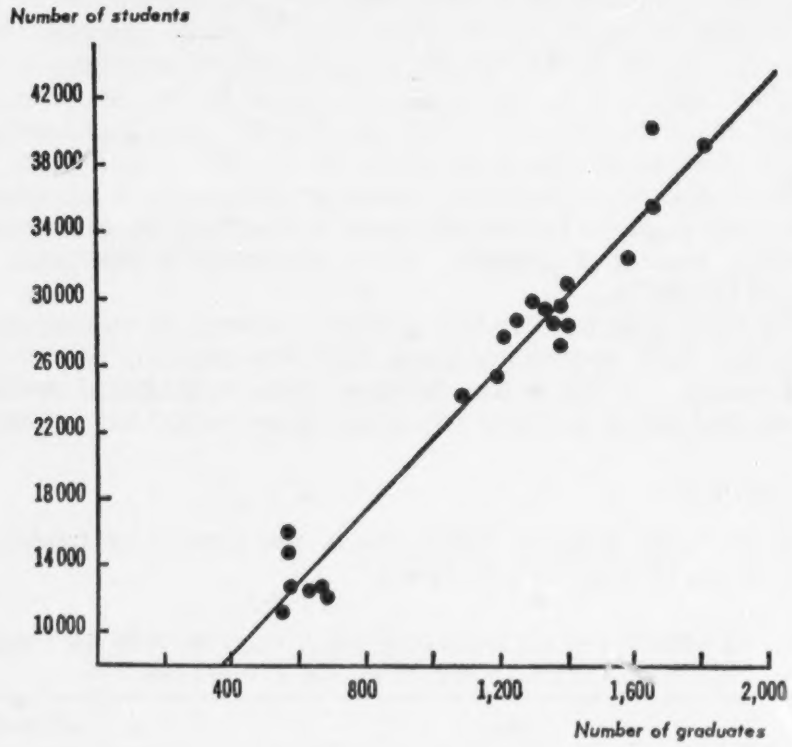


TABLE 30. BREAKDOWN OF DIFFERENCE BETWEEN MALE AND FEMALE TRANSFER RATES

DIFFERENCE DUE TO	PER CENT
Lower grammar school enrolment	0.7
Low proportion of grammar and modern grammar school certificates in the number of certificate holders	1.8
Lower percentage of transfer to universities	1.6
Fewer freshmen without grammar school certificate	0.8
	4.9

Graph 11. NUMBER OF STUDENTS AND NUMBER OF GRADUATES 25 YEARS EARLIER, 1935-1960



Neither the proportion of grammar and modern grammar school graduates nor the transfer percentages for the various categories of graduates shows an increase (Table 23 and Graph 9), so it may safely be assumed that the backlog in the female transfer percentage will remain.

Other tests of trend analyses. Two other analytical models have been used to try to explain the number of university students over time. One model assumes a relationship between the number of students and income per capita, and the other between the number of university graduates in a given year and the student population 25 years later. These relationship are illustrated in Graphs 10 and 11.

Graph 10 shows a difference in the relationships between the periods before and after World War II. As no comparable break can be found in grammar school enrolment (section 3) or in the transfer from grammar schools to universities (see above), the reasons for this break will have to be sought in the changes in the distribution of school leaving certificate holders according to types of school (the increases in the percentage of male certificate holders for modern grammar school, language section, and commercial day school — with low or zero percentage of transfer to the university — ceased just before the war — see Table 22) and in the fact that, after the war, the ratio of students to freshmen increased as a consequence of a shift on the part of students to faculties requiring a longer period for graduation and a general tendency to prolong the duration of university studies.

In Graph 11, part of the correlation shown is due to an increase in population. Its analytical value would therefore improve if the number of students were considered as a percentage of the 18-25 age group and of graduates as a percentage of the 25 year olds. The theoretical assumptions underlying the hypotheses of a relationship between the number of students and the number of graduates 25 years earlier greatly resemble those on page 108 — a possible new model for grammar school enrolment — showing that the composition of the occupational groups in the labour force is a predominant factor in grammar school enrolment. As all grammar school graduates (regardless of their social background) will normally enter professional, managerial, etc. occupations, where grammar school enrolment rates are higher, total grammar school enrolment will increase continuously. This self-generating process of grammar school enrolment is illustrated, *mutatis mutandis,* in Graph 11.

As the percentage transfer from grammar schools to universities is said to be constant, both approaches given here first measure grammar school enrolment (rates). If this is true, however, then an analytical model tailored to fit the analysis of grammar school enrolment would be preferable.

Regional analysis

There are large regional differences in the number of freshmen as a proportion of the 18 year old population.

TABLE 31. NUMBER OF FRESHMEN AS A °/oo OF THE 18 YEAR OLD POPULATION, 1954-1956, IN 134 REGIONS

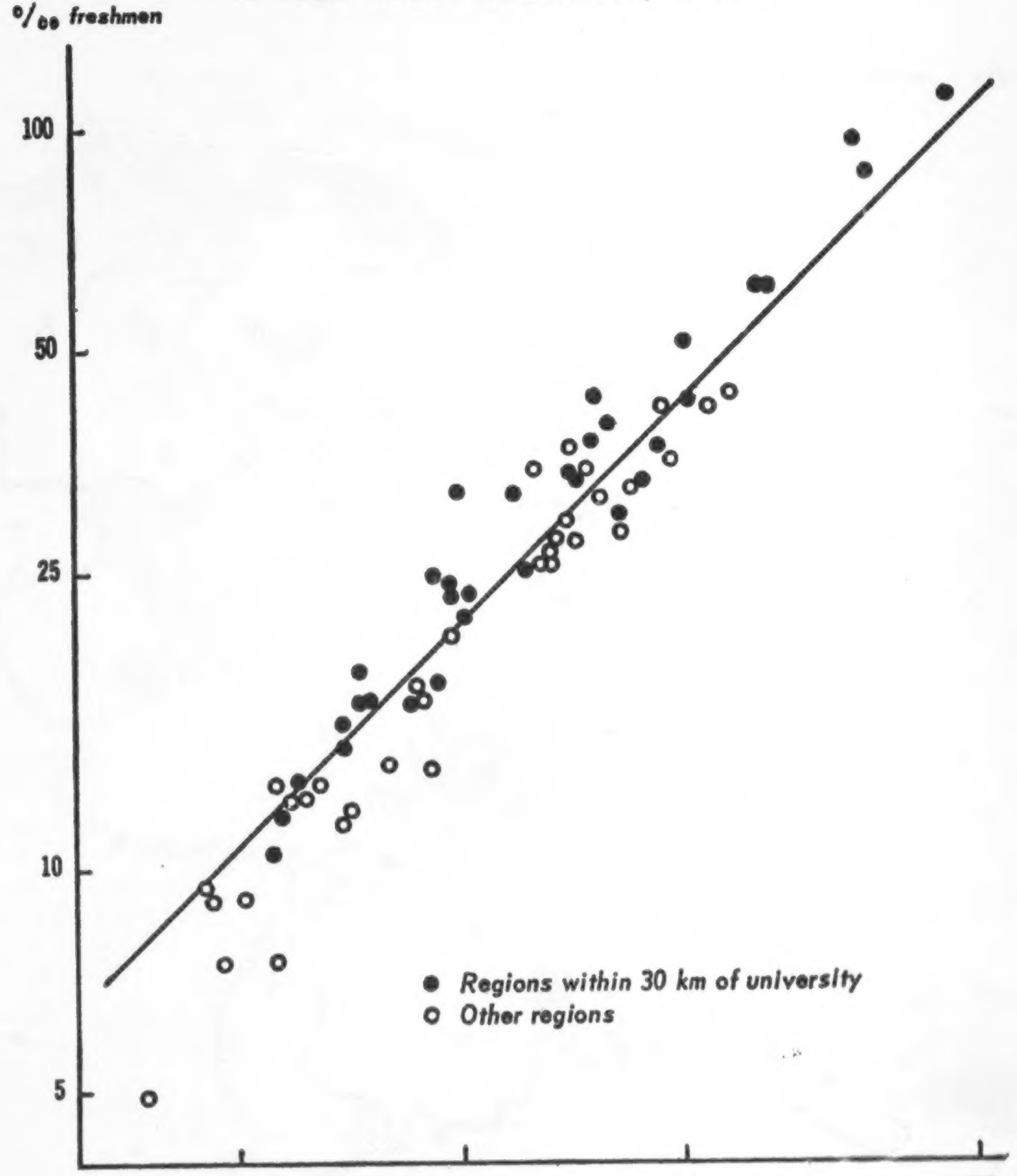
°/oo	NO OF REGIONS
0 — < 10	21
10 — < 20	51
20 — < 30	30
30 — < 40	18
40 and over	14
	134

Regions with low proportions (< 10 °/oo) are rural; those with more than 40 °/oo are towns or residential areas. These regions also respectively showed low and high grammar school enrolment rates (section 3) so that the inference is that regional differences in the number of grammar school graduates (as a proportion of the 18 year old population) largely determine those for freshmen. The correlation is shown in Graph 12[1].

---

[1] The distribution of certificate-holders by sex and type of school varies according to region. The percentage of those transferring to the university varies according to school category. (See Table 28.) To eliminate the influence of these different distributions on the total transfer percentage for the regions, the following procedure was adopted:
The number of certificate-holders of each type in the regions was multiplied by the corresponding national transfer percentage. The sum of these weighted graduates was divided by the national transfer percentage for all grammar school graduates. This gives a new number for those leaving grammar school.
The number of freshmen, divided by the number of grammar school leavers thus calculated, gives for each region a transfer percentage uninfluenced by regional differences in the distribution of certificate-holders by sex and type of school.
These percentages are shown in Graph 12. (A sample only of the regions to simplify).

Graph 12. NUMBER OF UNIVERSITY FRESHMEN AND OF GRAMMAR SCHOOL GRADUATES AS PERCENTAGE OF THE 18 YEAR OLD POPULATION, 1954-1956



The close correlation shows that regional differences in enrolment in higher education are mainly due to differences in grammar school enrolment.

Not all the points representing the various regions lay on the regression line, showing that regional differences exist in the number of freshmen as a percentage of grammar school graduates.

Regions with very high or low percentages are difficult to classify. The 10 regions with the lowest percentages include towns and rural areas, and those with the highest, towns and residential regions, especially in the western part of the country.

Graph 13. NUMBER OF FRESHMEN AS A PERCENTAGE OF GRAMMAR SCHOOL GRADUATES, 1954-1956

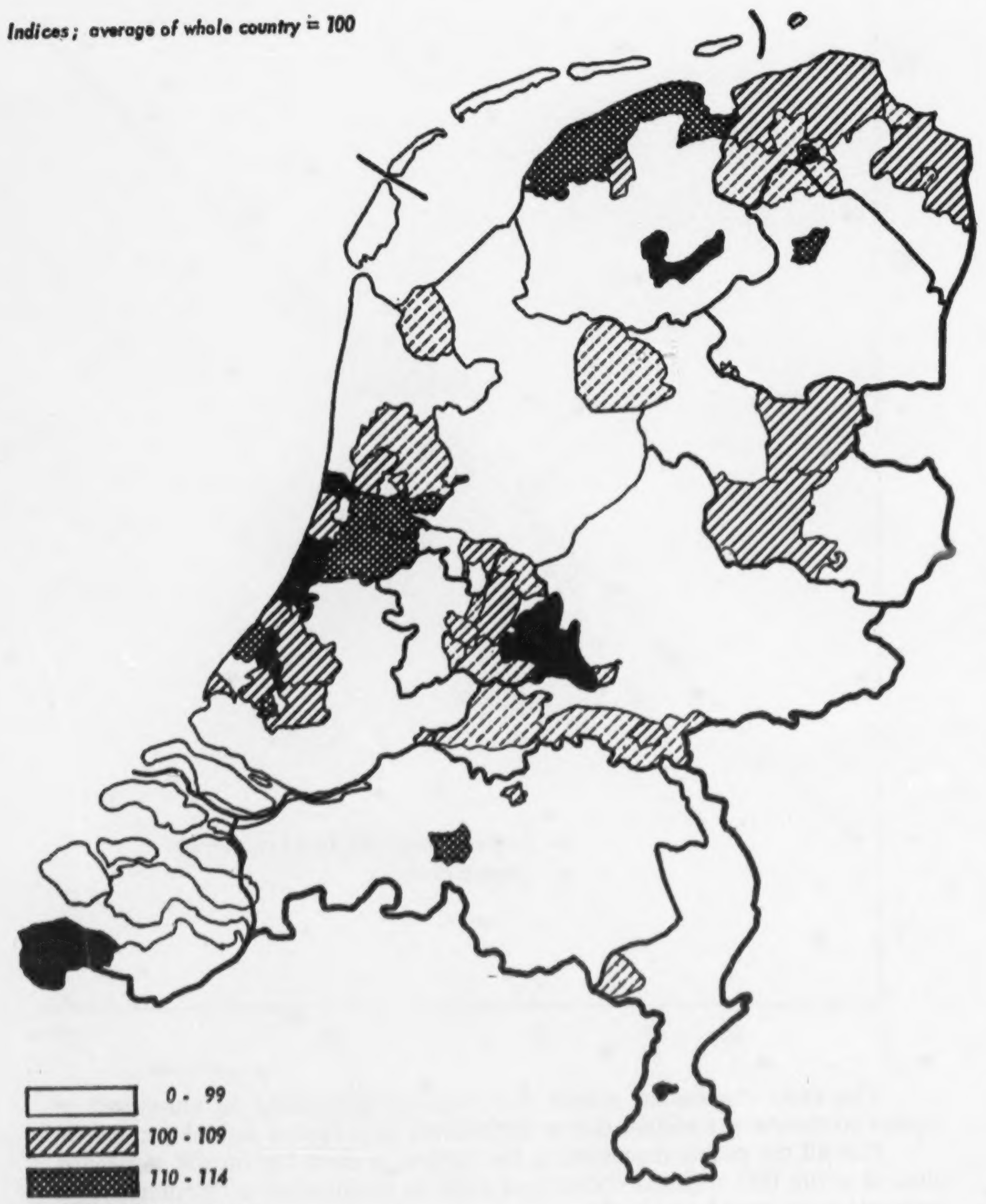

Indices; average of whole country = 100
0 - 99
100 - 109
110 - 114
115 and over
Regions with small numbers of graduates with transfer index 100 or over

TABLE 32. NUMBER OF FRESHMEN AS A PERCENTAGE OF GRAMMAR SCHOOL GRADUATES, 1954-1956, 134 REGIONS

PER CENT	NO OF REGIONS
< 30	7
30 — < 40	46
40 — < 50	59
50 — < 60	18
60 and over	4
	134

Graph 13 shows the (indexed) regional variation in these percentages. Boundaries between regions with the same indices have been omitted to simplify the graph.

If circles with a radius of 30 km are drawn around the universities, nearly all regions with a high percentage of freshmen in relation to the number in grammar school graduates are found to be within them. There are still considerable differences in the percentages of the various regions inside and outside the circles, those inside showing an average percentage of 46 and those outside 39. This difference might possibly be explained by the distance to the university, but the areas within the circles might also, for example, be high-income regions. In this case, differences in transfer percentages as between regions inside and outside the circles might be due to differences in per capita income. For the regions outside the circles, multiple regression analyses have been used to show whether there is correlation between the percentages and *a*) the number of male university graduates of 45 years and older as a percentage of grammar school leavers, *b*) per capita income, *c*) the number of scholarships as a percentage of all grammar school graduates, *d*) degree of urbanization, and *e*) per cent of grammar school graduates with high marks, but no significant correlations were found. The higher percentages in the regions near a university, therefore, reflect the influence of the distance from the university[1].

The results of the analyses of regional differences in the number of university freshmen as a percentage of the 18 year old population showed them to be due mainly to differences in the number of grammar school graduates (or grammar school enrolment) and to a less degree to distance from the university.

The results of this analysis can be used for calculating the additional number of freshmen obtained on opening a university in a town where none existed. It may be safely assumed now that the percentage of grammar school graduates going to university education will rise to 46 in the 30 km radius, i.e. that, depending on the town chosen, an additional 40-60 students will seek admission to the university (or 1 per cent of the existing total number of freshmen in the Netherlands).

---

[1] Distance from a university has not been included in a multiple regression analysis covering all regions because it is difficult to get an adequate measure of this distance. A theoretically satisfactory distance factor would have to take account of: distribution of the grammar school graduates by sex and type of school, since the various categories have not the same access to the university, distances to 11 universities with varying numbers of faculties, and some of which are denominational, some important, others not. Graph 13 shows that, outside a 30 km radius no systematic influence of distance from university is apparent. The " distance from university " troubles were overcome by restricting the analysis to the regions outside the 30 km circles.

Times series and cross-section analyses come to the same conclusion, i.e. that the transfer of grammar school graduates to the university can be regarded as constant[1].

Earlier attempts to explain the regional differences in the number of university students as a percentage of the 18-25 age group, or the number of freshmen as a percentage of the 18 year old population attributed them to the percentage of male university graduates of 45 years and older in the male labour force, income per capita, and intelligence, but did not take into account the number of grammar school graduates as a causal variable.

As the transfer of grammar school graduates to the universities can be considered as constant, one can say that they do not explain participation in university education but, instead, participation in grammar school education by phenomena connected with university education. For a better analysis of grammar school enrolment reference should be made to section 3.

CHOICE OF FACULTY

Trends

Past trends : Past trends in the choice of faculty are shown in Table 33.

TABLE 33. NUMBER OF FRESHMEN IN THE DIFFERENT FACULTIES AS A PERCENTAGE OF ALL FRESHMEN, 1900-1960 (MALE)

	1900	1910	1920	1930	1940	1950	1960
Theology	11.8	7.5	3.6	7.6	5.2	4.5	2.2
Law	20.6	23.2	20.1	12.3	11.3	9.3	6.8
Medicine	24.7	25.9	15.8	15.6	13.9	16.5	9.8
Dentistry	.	.	2.6	4.6	2.2	2.9	2.6
Mathematics and physics	10.8	5.3	9.4	10.2	10.4	12.2	16.8
Arts	2.8	4.3	5.1	6.5	4.2	5.4	9.7
Geography	—	—	—	1.3	1.3	1.4	1.6
Psychology	—	—	—	—	—	1.9	2.5
Economics	—	—	14.9	9.2	17.1	12.4	13.5
Veterinary science	3.3	5.6	2.2	0.9	1.4	2.3	1.2
Political and social sciences	—	—	—	—	—	4.0	4.0
Technology	22.4	21.0	22.8	20.5	24.5	23.0	26.0
Agriculture	3.6	7.2	3.5	5.1	6.3	4.0	3.3
Colonial law, etc.	—	—	—	6.2	2.2	0.2	—
	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The changes in the distribution of faculties imply changes in the demands of graduates, e.g. a shift from theology and law to geography, psychology, economics, political and social sciences, but what is the explanation of the constant percentages in technology, and in mathematics and phyiscs ?

---

[1] Apart from the influence of the distribution of grammar school graduates by sex and type of school and the slight influence of the distance from the universities.

Influence of demand on choice of faculty

A. *Short term*

In view of the growing number of forecasts concerning the demand for graduates, and the information given to grammar school pupils concerning the job prospects for university graduates it would seem logical to base forecasts of the number of freshmen by faculty on the results of studies showing demand for university graduates.

A report giving forecasts of demand and supply of graduates by faculty and the required breakdown of freshmen by faculty (as a percentage of all freshmen) to balance supply and demand was completed in 1959[1]. The press gave great publicity to this report which was distributed widely among grammar school pupils. No other report on the subject had ever been so well and effectively distributed.

Its effect on the choice of faculty is analysed below.

To achieve equilibrium between supply and demand the information given to grammar school pupils concerning jobs should try to influence their choice so as to bring the distribution by faculty in line with Table 34.

TABLE 34. PERCENTAGE DISTRIBUTION OF FRESHMEN BY FACULTY, ACTUAL AND ACCORDING TO DEMAND FOR GRADUATES

	1955-1957	1958-1962	1963-1967	1968-1972
	ACTUAL	ESTIMATED ACCORDING TO DEMAND FOR GRADUATES		
Medicine	12	11	10	10
Dentistry	2	4	4	4
Mathematics and physics	15	15	16	17
Arts	13	9	5	4
Geography	3	1	1	1
Law	7	12	10	10
Economics	11	13	14	14
Social sciences	6	3	4	4
Psychology	4	3	3	3
Technology	20	22	25	25
Veterinary science	1	1	1	1
Theology	3	3	3	3
Agriculture	3	3	4	4
	100	100	100	100

Estimates show an increase in the requirements of freshmen in dentistry, mathematics and physics, economics, and technology and a decrease in medicine, arts (expected surplus of grammar school teachers), geography, social sciences and psychology to avoid a surplus. The increase in law students is not due to increased demand, but to avoid the shortage which would occur if the percentage remains as low as in the period 1955-1957.

Table 35 compares the actual percentages for 1959-1961, with those required to meet the estimated demand for graduates (1958-62).

---

[1] *Number of university graduates up to 1980*, Zeist 1959 (in Dutch).

TABLE 35. BREAKDOWN OF FRESHMEN BY FACULTY, ACTUAL AND ACCORDING TO ESTIMATED DEMAND

	1959-1961 (ACTUAL)	1958-1962 (DEMAND)
Medicine	11.2	11
Dentistry	2.4	4
Mathematics and physics	16.3	15
Arts	14.1	9
Geography	2.2	1
Law	7.4	12
Economics	10.9	13
Social sciences	4.8	3
Psychology	3.7	3
Technology	20.8	23
Veterinary science	1.2	1
Theology	1.7	3
Agriculture	3.3	3
	100.0	100

No conclusions can be drawn from Table 35 concerning any effect the report (i.e. information service) might have had on the distribution of freshmen by faculty. It is possible that the actual percentages were what might be expected, for example, from distribution trends. The following procedure was adopted to overcome these difficulties.

First the percentages which might be expected in 1959-1961 were calculated on the basis of 1951-1958 trends, the average being used for some faculties and the extrapolated trend for others. The actual 1951-1958 percentages oscillate around either the average or the trend, and a similar oscillation was assumed for the period 1959-1961. An upper and lower limit for the expected average or trend 1959-1961 percentage was calculated for each faculty, shown by the lines on Graph 14. If the 1959-1961 percentage was what might have been expected then it lies somewhere between these lines[1]. The actual percentages for 1952-1961, the average actual percentage 1959-1961, the upper and lower limits for the expected percentage 1959-1961 and the demand percentage are all shown in Graph 14.

An analysis of the position of the demand and actual average percentages in relation to the above-mentioned lines makes it possible for conclusions to be drawn concerning the effects of job information.

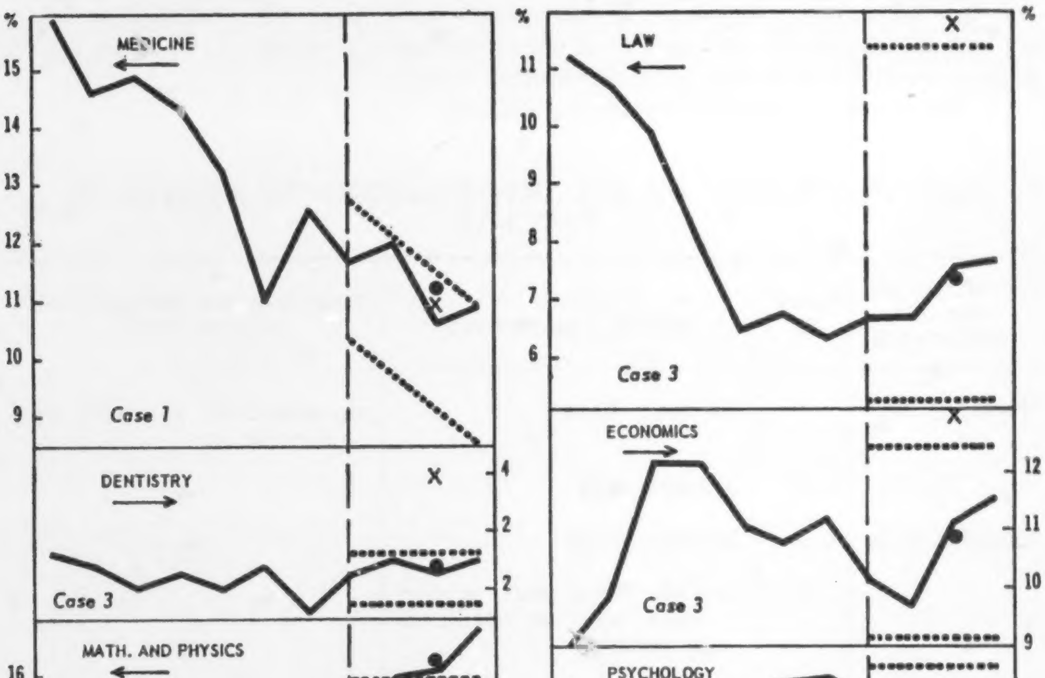
If both the demand and the actual percentage lie between the lines (case no. 1), then no conclusions concerning the effect of job information can be drawn as the students and the job information wanted to do the same thing. But if the actual percentage lies outside the lines and the demand percentage between the lines (case no. 2), then it is certain that job information had no effect.

The effect of job information can always be inferred when the demand percentage lies outside the lines, i.e. if job information sought to influence freshmen so as to change their distribution by faculty. Three cases can be distinguished here. If the actual percentage lies within the lines (case no. 3) then the freshmen did not listen to the advice included with job information.

---

[1] The distance between the lines was chosen so that the expected percentage would lie between the upper and lower limit in 9 out of 10 cases.

Graph 14. NUMBER OF FRESHMEN IN VARIOUS FACULTIES AS A PERCENTAGE OF ALL UNIVERSITY FRESHMEN



● *Actual average percentage 1959-1961.*
X *Demand percentage.*
Upper and lower limit.

If the actual percentage lies outside the lines and at the same side as the demand percentage (case no. 4) then this may be interpreted as a success for the information service. If the actual percentage lies outside the lines and on the opposite side to the demand percentage (case no. 5) then again it may be concluded that job information failed.

Table 36 summarises these conclusions.

TABLE 36. EFFECT OF JOB INFORMATION ON CHOICE OF FACULTY

POSITION OF DEMAND PERCENTAGE	CASE NO	POSITION OF ACTUAL PERCENTAGE	WHETHER JOB INFORMATION AFFECTS CHOICE
Between lines	1	between lines	not possible to draw any conclusion
	2	outside lines	no
Outside lines	3	between lines	no
	4	outside lines and at the same side as demand percentage	yes
	5	outside lines but opposite the demand percentage	no

The results have been shown in Graph 14.

Apart from medicine, where no conclusion can be drawn, job information had no effect on any of the faculties.

In general, the choice of the 1959-1961 freshmen was much the same as that of the freshmen before 1959, i.e. they just followed " tradition ".

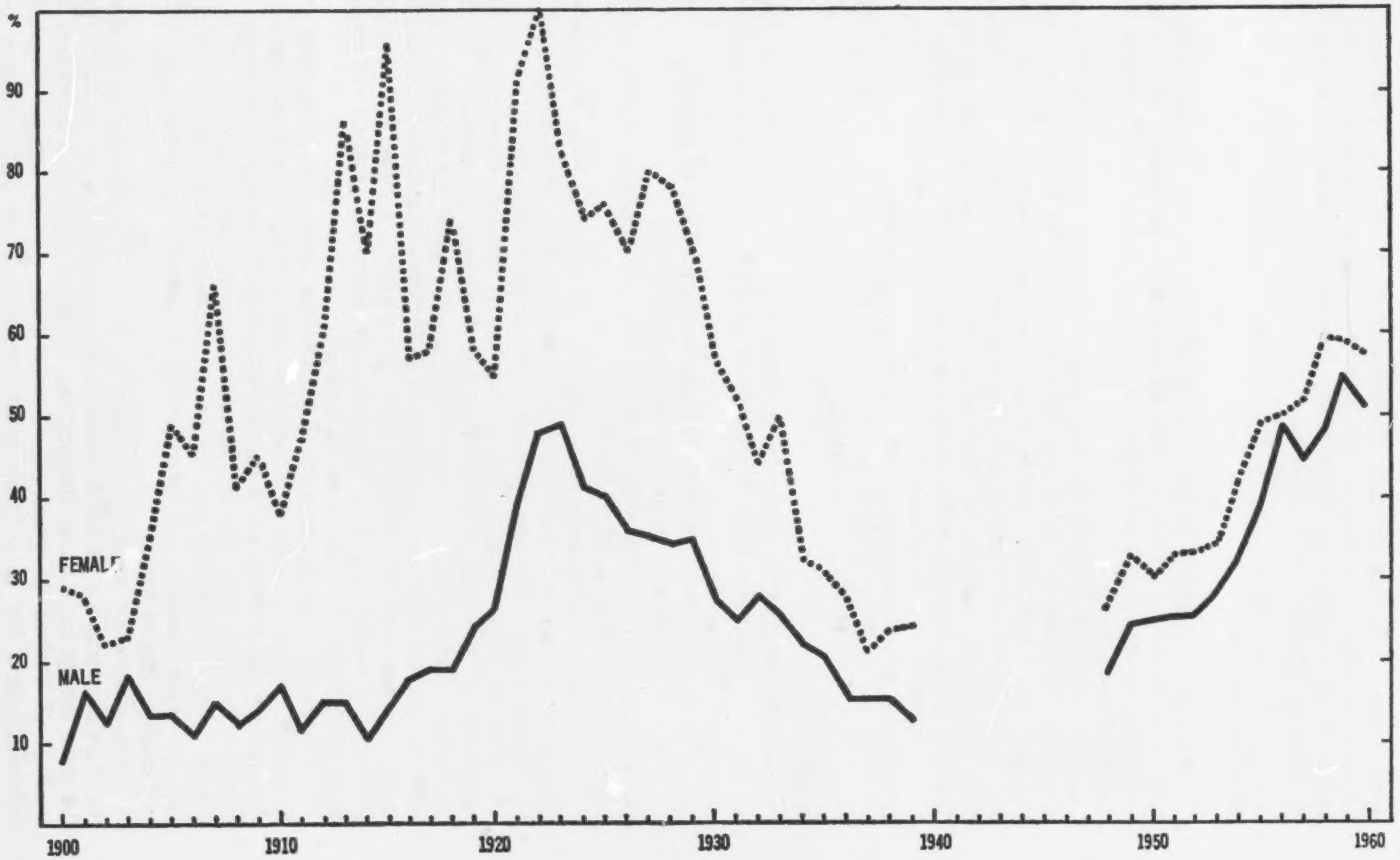
B. *Long term*

Another test concerning the influence of demand on choice of faculty is illustrated in Graph 15, where freshmen in the faculty of arts are shown as a percentage of grammar school graduates, language section, the only ones allowed to sit for the examination of this faculty, whose graduates generally become grammar school teachers.

The male percentage remained practically constant until 1919 ; about 1920 this faculty was extended to include examinations in modern foreign languages and history, thus extending the occupational possibilities of its graduates — especially the teaching of these subjects in grammar schools. This gave rise to a rapid increase in the percentage taking arts. After 1923 a decrease can be noted and a tendency towards stabilization by 1929. After this year there was an increasing surplus of grammar school teachers, accompanied by an ever decreasing percentage for arts. The grammar school teacher shortage in the period after World War II brought about a rapid increase in the percentage for arts.

This shows that inflow reacts to the actual labour market position of the graduates. This is seven years too late since the university course lasts

Graph 15. NUMBER OF FRESHMEN IN THE FACULTY OF ARTS AS A PERCENTAGE OF GRAMMAR SCHOOL, LANGUAGE SECTION, GRADUATES, 1900-1960



seven years. The findings may be summarised as follows. Freshmen do not react to forecasted demand but to actual demand. It may be that by means of an adequate job information service a slow adaption of inflow to estimated demand can be obtained.

Regional analysis

Regional differences in choice of faculty can be seen by expressing the number of freshmen in the various faculties as a percentage of the corresponding type and number of grammar school graduates, for regions, and then plotted on a map.

An analysis of the map for technology shows that in the neighbourhood of the two Institutes of Technology high percentages of freshmen in technology are found and in the neighbourhood of the universities (all of which have a faculty of mathematics and physics) low percentages. The distance from the nearest Institute of Technology and from the nearest university therefore partly determines the percentages of freshmen in technology.

A multiple regression analysis of regional differences in the percentage of freshmen in technology gave the following explanation :

$$T = -\underset{(6\ \%)}{23.7}\ TU + \underset{(19\ \%)}{6.3}\ U + 57.4 \qquad R = 0.90$$

in which :

T = number of freshmen in technology as a percentage of male graduates from B sections of grammar and modern grammar schools ;
TU = distance to nearest Institute of Technology in log.km ;
U = distance to nearest university in log.km ;

the percentages in brackets show standard errors of regression coefficients as a percentage of these coefficients.

The regression equation shows that as the distance from Institute of Technology increases the percentage in technology falls, while an increase in the distance from universities tends to increase the percentage.

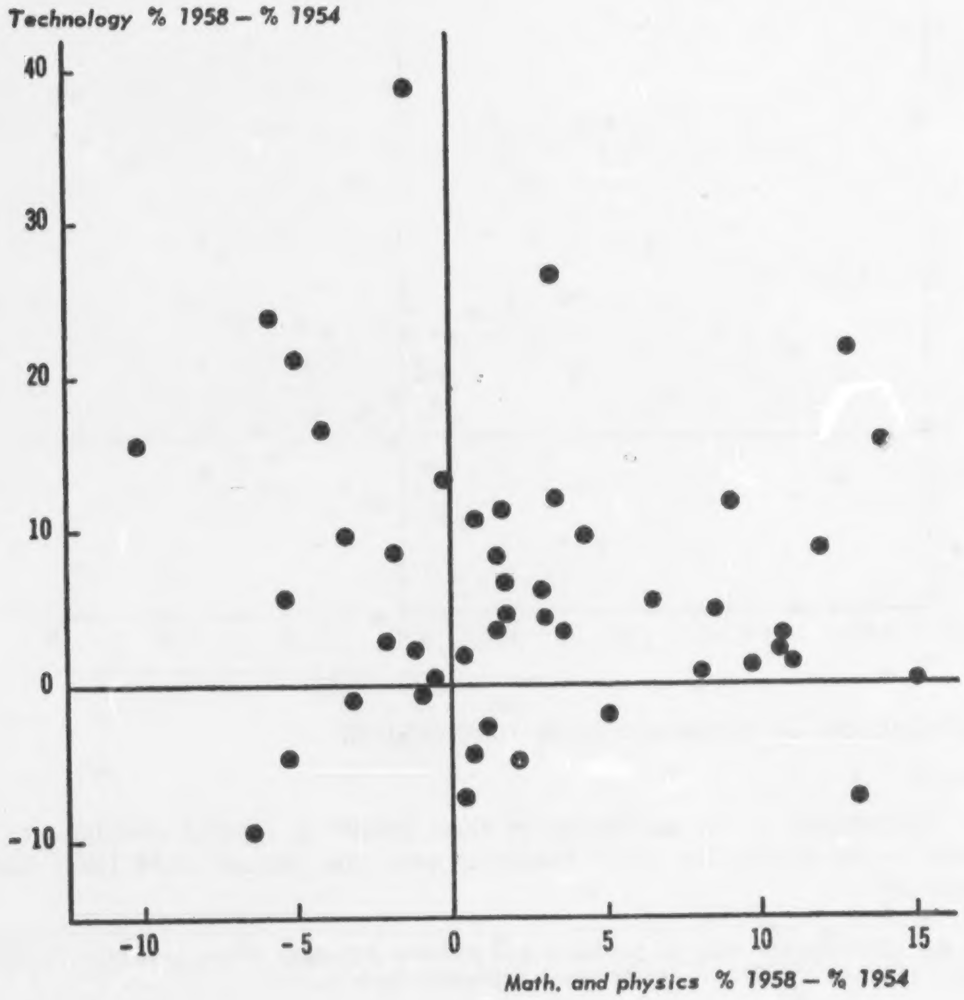
With the help of the regression equation the residuals (that part of the percentage of freshmen in technology which cannot be explained by the regression equation) were calculated and again plotted on a map. These residuals did not show any correlation with factors characteristics of various regions, so that only the distance from the nearest Institute of Technology and from the nearest university systematically determines regional differences in the percentage of freshmen in technology.

The map for the percentages of freshmen in economics (economics can be studied in two Schools of Economics and in three of the six (general) universities) also showed a systematic relationship between the percentage of freshmen in economics and the distance from the nearest School of Economics. This relationship was not as clear however as that for technology. For the other faculties (all incorporated in general universities) no such relationships can be found.

The reason for these divergencies is clear. The distance of a given region is the same for all the faculties in the (general) university, but is not the same for the Institute of Technology. When a region is located near an Institute of Technology grammar school leavers will be tempted to study technology, but for those who resist the temptation distance does not make any difference what they choose. So far as distance is concerned the position of the faculty of economics is between that of technology and all other faculties.

Other factors besides distance may also determine regional differences in the percentages of freshmen in the various faculties. An analysis of these regional differences might indicate the factors that determine the choice of faculty. Before starting the analysis an enquiry was first made to show to what extent regional differences were stable. The percentage of freshmen in a given faculty for a given year in the regions did not correlate with those in succeeding years (with the exception of tehnology and economics). Thus, none of the factors characteristic of the regions (income, urbanization, etc.) systematically determines the regional differences in the percentages in the various faculties (again with the exception of distance to Institute of Technology and to nearest School of Economics).

Graph 16. NUMBER OF FRESHMEN IN TECHNOLOGY IN RELATION TO THOSE IN MATHEMATICS AND PHYSICS AS A PERCENTAGE OF GRAMMAR SCHOOL (SCIENCE SECTION) GRADUATES, 1958 MINUS 1954, IN 50 REGIONS



Interrelationship between faculties

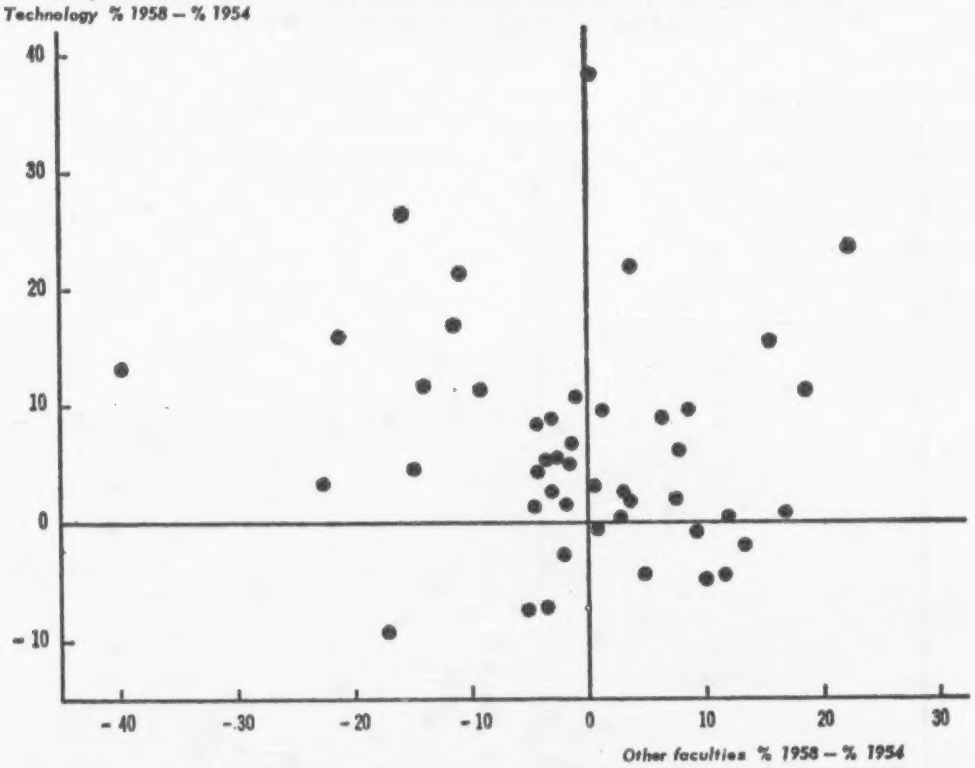
For some forecasting models it is necessary to know what would happen to the percentage of freshmen in certain faculties if the percentage in a given faculty were to increase.

Although this may be examined on the basis of data in Table 33, only unreliable trend correlations may be obtained.

Another approach is to investigate the correlation between (*a*) the regional percentage increases or decreases in one faculty and (*b*) those in other faculties.

Graphs 16 and 17 illustrate two of these tests. They show that there is no systematic relationship between the 1958 minus the 1954 percentages for technology students in relation to the corresponding percentages for (*a*) mathematics and physics and (*b*) all other faculties[1].

Graph 17. NUMBER OF FRESHMEN IN TECHNOLOGY IN RELATION TO OTHER FACULTIES AS A PERCENTAGE OF GRAMMAR SCHOOL (SCIENCE SECTION) GRADUATES 1958 MINUS 1954, IN 50 REGIONS



DISTRIBUTION OF FRESHMEN OVER UNIVERSITIES

Trends

Attendance at the university in their home or nearest province was shown to be stable for male freshmen over the period 1954-1960 (see Graph 18).

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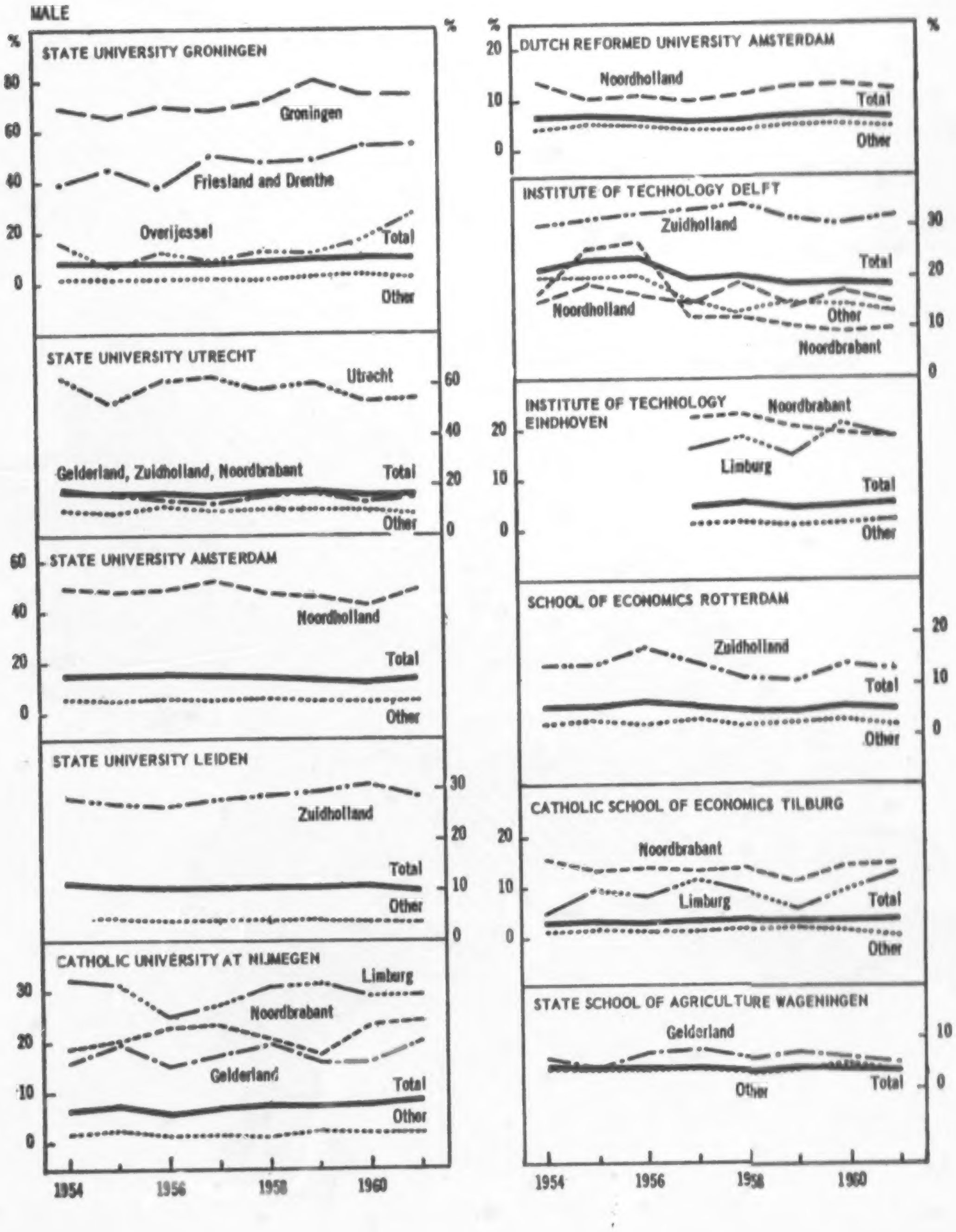
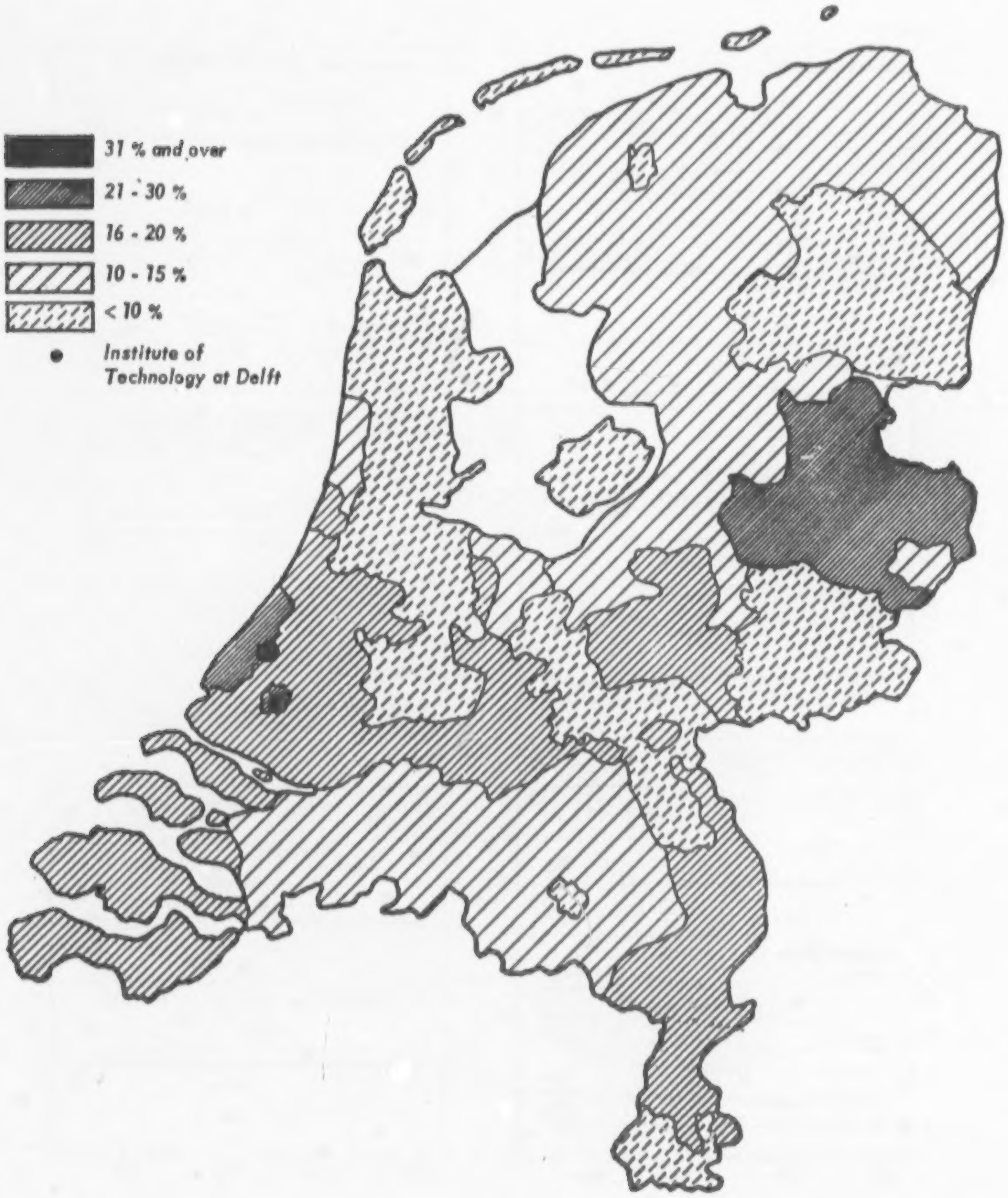
[1] These graphs refer to grammar and modern grammar school graduates, B sections, and those faculties to which these graduates have access.

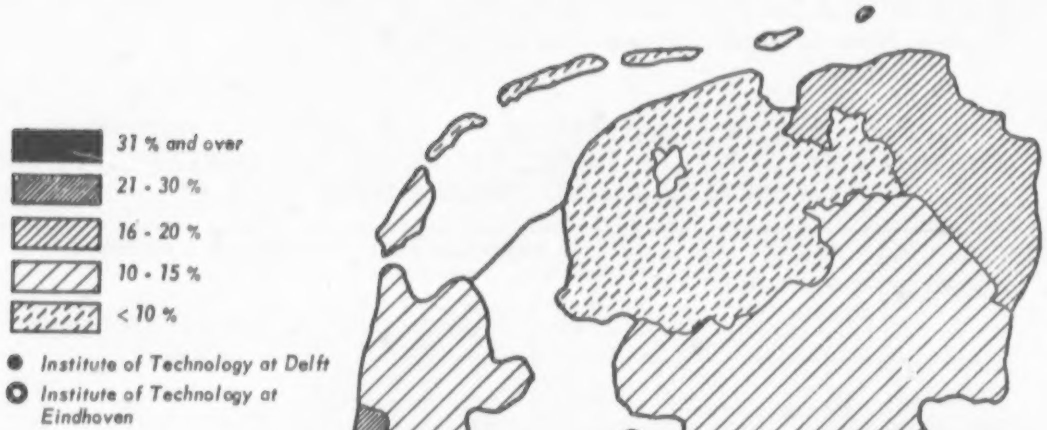
Graph 18. FRESHMEN ATTENDING THE UNIVERSITY SITUATED IN THEIR HOME OR NEAREST PROVINCE AS A PERCENTAGE OF THE TOTAL NUMBER OF FRESHMEN IN THE PROVINCE



Graph 19. NUMBER OF FRESHMEN IN TECHNOLOGY AS A PERCENTAGE OF MALE GRADUATES FROM GRAMMAR AND MODERN GRAMMAR SCHOOLS (SCIENCE SECTION), 1954


■ 31 % and over
▨ 21 - 30 %
▨ 16 - 20 %
▨ 10 - 15 %
▨ < 10 %
● Institute of Technology at Delft

Graph 20. NUMBER OF FRESHMEN IN TECHNOLOGY AS A PERCENTAGE OF MALE GRADUATES FROM GRAMMAR AND MODERN GRAMMAR SCHOOLS (SCIENCE SECTION), 1958


31 % and over
21 - 30 %
16 - 20 %
10 - 15 %
< 10 %
Institute of Technology at Delft
Institute of Technology at Eindhoven

A definite change can be seen in the Noordbrabant percentage of freshmen going to the Delft Institute of Technology after the opening of the Institute of Technology at Eindhoven in 1957 (Eindhoven is in Noordbrabant).

Regional distribution

Universities recruit their students mainly from the surrounding neighbourhood[1] and the distribution of freshmen in a region is in relation to the distance from the university, as shown in Table 37.

TABLE 37. PERCENTAGE OF TOTAL NUMBER OF FRESHMEN JOINING UNIVERSITY A, IN RELATION TO THE DISTANCE FROM UNIVERSITY A AND FROM UNIVERSITY B[2]

DISTANCE FROM UNIVERSITY B IN KM	DISTANCE FROM UNIVERSITY A IN KM					
	0- < 10	10- < 30	30- < 60	60- < 100	100- < 150	150 AND OVER
0 — < 10	—	—	4	—	—	2
10 — < 30	—	61	19	2	—	5
30 — < 60	94	82	38	19	14	4
60 — < 100	—	82	67	33	23	7
100 — < 150	—	—	84	60	41	28
150 and over	97	93	87	71	65	50

The table shows decreasing percentages from left to right, i.e. the percentage of freshmen going to a particular university falls as the distance to that university grows and the distance to another university remains constant. Percentages increase from the top to the bottom showing that in regions with the same distance to a particular university the percentages of freshmen going to that university increase with increasing distances to another university.

This table may be used to estimate the change in distribution of freshmen among universities when a new one is opened.

AN EXPERIMENT : THE INSTITUTE OF TECHNOLOGY AT EINDHOVEN

The results of the analyses of the transfer of grammar school graduates to the university, of the choice of faculty, and of the distribution of freshmen in universities discussed in this chapter can be used for forecasting the future inflow of students into the university ; to a certain extent they are of theoretical value only.

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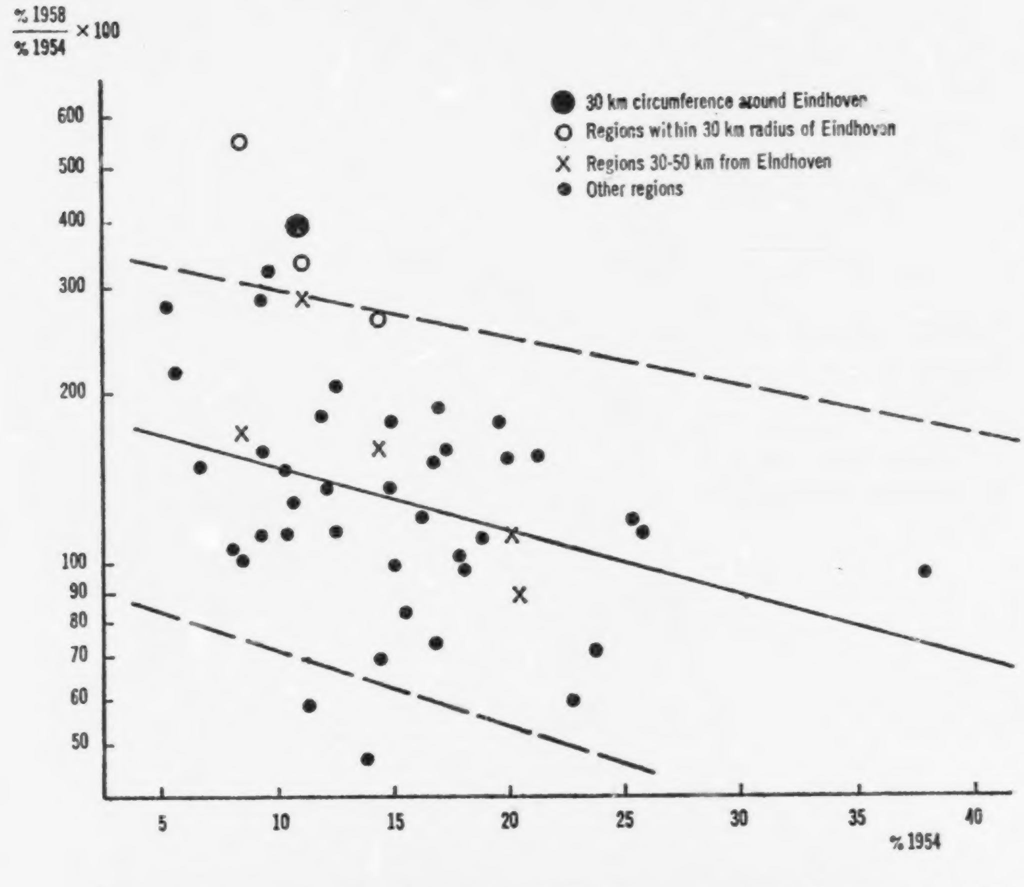
[1] This does not mean that the presence of a university has a strong influence on the transfer of grammar school graduates to the university but that freshmen prefer to study at the nearest university.

[2] The table refers to the four general (State) universities only. This gives six combinations for two universities with corresponding distances and numbers of freshmen per region. The percentages in the table are calculated for the sum of the students of the various combinations in order to exclude, as far as possible, atypical situations.

Graph 21. NUMBER OF FRESHMEN IN TECHNOLOGY AS A PERCENTAGE OF MALE GRAMMAR SCHOOL (SCIENCE SECTION), GRADUATES 1954 AND 1958



The opening of a new Institute of Technology at Eindhoven, in 1957, makes it possible to check the results of these analyses by comparing the situation in 1954 with that in 1958, i.e. one year after the opening of the Eindhoven Institute.

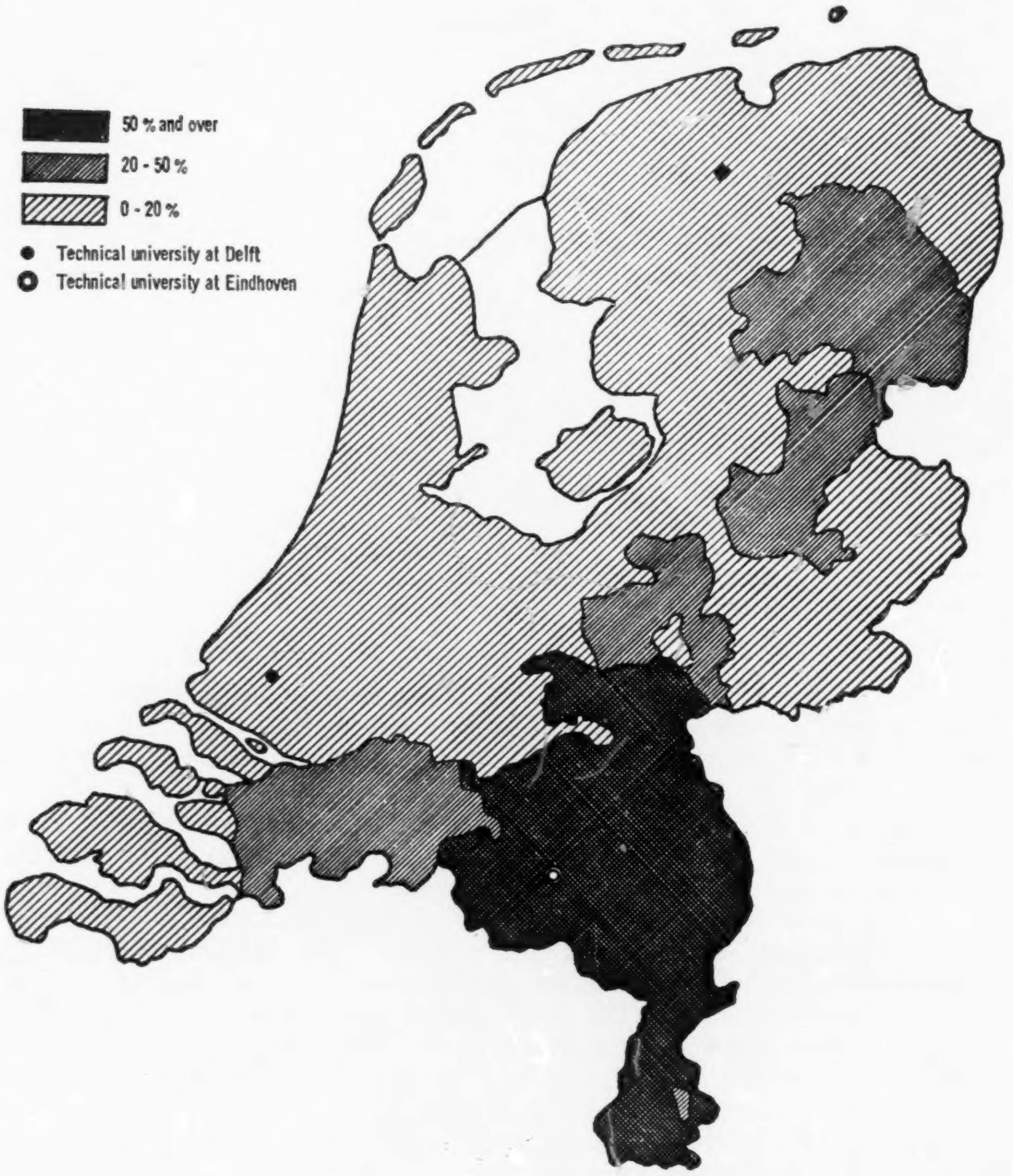
Graphs 19 and 20 show the number of freshmen in technology as a percentage of the male graduates from grammar and modern grammar schools (B section) in 1954 and 1958 respectively.

The graphs show a general increase in the percentages in technology and that the highest percentages are to be found in the neighbourhood of the institutes of technology, namely Delft in 1954, Delft and Eindhoven in 1958. The percentages decrease as the distance from the Institutes increases. This shows that the opening of the Institute of Technology at Eindhoven has increased the number of freshmen as a percentage of grammar school graduates. To what extent is shown in Graph 21.

This graph shows, for regions, the relationship between the number of freshmen as a percentage of male grammar and modern grammar school graduates — science section — in 1954, and the increase in this percentage between 1954 and 1958.

The line in the graph follows the dots representing the regions as closely as possible. The broken lines are so placed that 90 per cent of the dots lie between them.

Graph 22. FRESHMEN AT THE INSTITUTE OF TECHNOLOGY AT EINDHOVEN AS A PERCENTAGE OF THE TOTAL NUMBER OF FRESHMEN IN TECHNOLOGY, 1958


■ 50 % and over
▨ 20 - 50 %
▨ 0 - 20 %
● Technical university at Delft
○ Technical university at Eindhoven

The line shows a slope, indicating that the increase in the percentages was highest in regions where the 1954 percentages were lowest.

Regions within a 30 km radius from Eindhoven show a larger increase not found in regions 30-50 km away from Eindhoven. It then follows that the influence of Eindhoven on the percentage of freshmen in technology has been restricted to a region 30 km around Eindhoven[1].

In this region the 1958 percentage of freshmen in technology had increased to 31. Graph 21 shows that without an Institute of Technology the percentage of 11 in 1954 would have increased to : 1.5 × 11 % = 16 % in 1958. It therefore follows that the percentage of technology has doubled in the Eindhoven 30 km region as a consequence of the opening of the Institute of Technology. This correspond to 40 additional freshmen in technology.

These additional students in technology may or may not mean a reduction in the other faculties. If not, then they are additional freshmen as such. Table 35 shows what has happened in the 30 km region around Eindhoven as compared to all other regions.

TABLE 38. NUMBER OF MALE FRESHMEN[1] IN TECHNOLOGY IN RELATION TO OTHER FACULTIES AS A PERCENTAGE OF MALE, GRAMMAR AND MODERN GRAMMAR SCHOOL GRADUATES, SCIENCE SECTION — 1954 AND 1958, REGIONS

REGIONS	1954		1958	
	TECHNOLOGY	OTHER FACULTIES	TECHNOLOGY	OTHER FACULTIES
30 km around Eindhoven	11	39	31	35
All other regions	16	36	20	40

1. With leaving certificate from grammar and modern grammar schools science section.

In the Eindhoven region the percentage in other faculties fell by 4 while that in other regions increased by 4. This indicates that 8 per cent, or 20 freshmen switched over from other faculties to that of technology in the Eindhoven region as a consequence of the opening of the Institute of Technology.

In then follows that of the 40 additional freshmen in technology 20 can be regarded as additional freshmen as such[2], while the other 20 are at the expense of other faculties.

The influence of the opening of the Eindhoven Institute of Technology on the number of freshmen as a percentage of grammar school graduates was shown to be restricted to 30 km radius from the Institute. That on the distribution of freshmen in technology in both institutes extended over a much greater region, as shown in Graph 22.

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[1] This is in accordance with the results of the theoretical analysis, p. 122.

[2] This figure is comparable to that mentioned in the section headed Regional Analysis, arrived at by the use of a theoretical model showing the influence of a new university on the transfer of grammar school graduates to the university.

Table 39 shows the influence of distance from both institutes on the distribution of freshmen in technology in the institutes.

TABLE 39. FRESHMEN AT THE EINDHOVEN INSTITUTE OF TECHNOLOGY AS A PERCENTAGE OF THE TOTAL NUMBER OF FRESHMEN IN TECHNOLOGY, AND REGIONS, IN RELATION TO THE DISTANCE FROM DELFT AND EINDHOVEN, RESPECTIVELY, 1958

DISTANCE FROM DELFT IN KM	DISTANCE FROM EINDHOVEN IN KM				
	0-<30	30-<60	60-<90	90-<150	150 AND OVER
0 — < 30	—	—	1	1	—
30 — < 60	—	20	7	3	—
60 — < 90	70	51	13	4	—
90 — < 150	80	75	25	8	9
150 and over	—	—	64	16	8

An increase in the distance from Eindhoven is accompanied by a fall in the percentage and an increase in the distance from Delft by a rise in percentage.

It should be noted that the Institute of Technology at Eindhoven (in 1958) had only three technological faculties catering for about 50 per cent of the number of students in the 12 faculties at the Delft Institute, so that diagonal percentages of 25 might be expected. As they are, in fact, much lower, it follows that freshmen in technology prefer Delft to Eindhoven, this preference becoming more marked as the distance from both institutes increases. The percentages exceed 50 near Eindhoven indicating that freshmen in the neighbourhood of Eindhoven switched over from other technological faculties to those offered at the Eindhoven Institute.

This means that Table 39 differs from Table 37 in which the distribution of freshmen is shown in relation to distance from universities which are on an equal footing.

The Eindhoven experiment largely substantiated the results of the theoretical analysis given earlier and which therefore may be regarded as a solid basis for forecasting.

FORECASTING MODELS

In the course of time several models for forecasting inflow into university education (or university enrolment) have been used in the Netherlands, and are mentioned below. They are of two types : (*a*) for integral forecasts covering the country as a whole, and giving the total number of students either with or without a breakdown by faculty, and (*b*) forecasts for individual universities. Integral forecasts serve as a basis for estimating total third level educational expenditure and required building capacity and for demand/supply forecasts. The forecasts for the individual universities are used as a basis for their expansion plans, in terms of buildings, finance, and staff required.

A. *Integral models*

1. The earlier models were based on an extrapolation of the inflow trend into universities as a percentage of the 18-year-old population or on total enrolment in universities as a percentage of the 18-25 age group. As this is a commonly used method no further details will be given.
2. A second model was based on the relationship between university enrolment as a percentage of the 18-25 age group and per capita income (see Graph 10). Extrapolation of income per capita together with Graph 10 gives the future number of students.

   Educational planners find this model very attractive as it puts all the work of forecasting on to the economist who has to provide estimates of future income per capita. It is doubtful, however, whether the educational planner is justified in using the relationship between income per capita and inflow into university education, which is his own responsibility (see page 121).
3. A third model started with an estimate of grammar school enrolment (see section 3, p. 107 for the various models used here), broken down by sex, and which was then used to calculate the number who pass their final examinations, broken down by type of certificate. The figures obtained were then multiplied by the estimated percentage of those who will go to the university to arrive at the total number of freshmen.

   One of the advantages of this model is that its calculations follow step-by-step the course of a pupil from the 6th class of the primary school to the first year of the university.

It has been shown above that grammar school graduates form a constant percentage of first year enrolment, and that the best estimate for the breakdown of graduates by type of certificate is that of recent years and that the best estimate for the transfer of grammar school graduates to the university is a constant percentage. It then follows that this model can be reduced, without any ill effects to one forecasting the number of grammar school first enrolments (with a breakdown by sex) and the number of university freshmen as a constant percentage of grammar school first year enrolments six years earlier.

This model must give the best estimates for the next six years to come for the number of freshmen for these six years is already determined by the number of first year enrolments now in grammar schools.

When a breakdown by faculty was required, two methods were used. In one, the prevailing distribution of freshmen in faculties was taken, in the other the distribution which would balance graduate supply and demand (Table 34). As freshmen did not react to estimated demand the former system has given the best results up to now.

For long-term forecasts the best method might be to start with the existing distribution but assuming a slow adaptation to estimated demand.

B. *Models with a breakdown by university and faculty*

1. One of the models of this type started with an integral forecast (see above) and, assuming a constant distribution of students in the universities, the total number of students was divided among the universities.

After making the corrections these changes require to the inflow matrix, this is multiplied by the outflow table to obtain the new number of freshmen, by university and faculty.

The following example shows the methods by which corrections to the inflow matrix are made.

In the field of technology two changes are expected. The number of freshmen in technology — as a percentage of grammar school graduates — is expected to increase as a result of the increasing demand for graduates in this faculty. This will affect the percentages of technology in all regions. The other change is that a technical university has recently been opened at Enschede (in the eastern part of the country). This will raise the percentage of technology in some regions and change the distribution of freshmen in technology in many regions The national increase in the percentage of technology freshmen will not be the same for all regions ; being bigger where percentages are now low and moderate where they are now high. Graph 21 makes it possible to estimate future percentages for the various regions. A corresponding reduction will have to be made from the percentages for other faculties as the total transfer of grammar graduates to the university will remain constant (section 4, page 116). As there is no systematic relation between the percentage increases in technology and the decreases in others (section 4, page 134), the best solution is for *pro rata* reductions to be made from the percentages for other faculties corresponding to the increase in technology.

The opening of the Institute of Technology at Enschede will mean that technology percentages will increase in the regions which are nearer to Enschede than to the two existing Institutes of Technology. The new percentages for technology in these regions are calculated with the help of the formula given in section 4 (page 132). Part of the increase in the number of technology freshmen represents additional freshmen and part a transfer of freshmen from other faculties. The number of additional freshmen may be estimated on the basis of the experience provided by the Eindhoven Institute of Technology (section 4, page 138). A corresponding deduction should be made from the other faculties for the increase due to transfer.

The total number of technology freshmen thus calculated will be distributed over three Institutes of Technology and we now know their distribution (by region) in relation to relative distance from two institutes only (Table 39). We can therefore, proceed as follows :

Let us assume that the distances from a given place " A " to the institutes at Delft, Eindhoven and Enschede are 125 km, 45 km and 15 km respectively. The table shows that, of the existing number of freshmen in " A " 75 per cent will go to Eindhoven and 25 per cent to Delft, i.e. a Delft-Eindhoven ratio of 25 : 75. If the Institute at Eindhoven were transferred to Enschede, it follows from the table that 80 per cent of the freshmen in " A " would go to Enschede and 20 per cent to Delft, i.e. a Delft/Enschede ratio of 20 : 80. A combination of the two equations shows the percentage ratio of freshmen at Delft : Eindhoven : Enschede to be 100 : 300 : 400.

The new distribution of technology freshmen for the three Institutes of Technology is thus calculated for the various regions and introduced in the inflow matrix simultaneously with the changes in percentages of technology, etc. Since all changes do not take place in the same year, inflow matrices are made for each year in which changes are expected to take place.

FIRST YEAR ENROLMENTS AND TOTAL ENROLMENT

Statistics have been kept for some years showing when students were first enrolled in the university so that it is possible to relate the number of students who stayed x years in universities to the corresponding number of freshmen x years earlier.

TABLE 40. BREAKDOWN OF NUMBER OF MALE UNIVERSITY STUDENTS BY YEARS ELAPSED SINCE ENROLMENT AS A PERCENTAGE OF THE CORRESPONDING NUMBER OF FRESHMEN, AND BY FACULTY, 1956/1957

	NUMBER OF YEARS SINCE ENROLMENT										
	0	1	2	3	4	5	6	7	8	9	10
Theology	100	85	77	79	72	60	43	33	22	15	12
Law	100	97	93	89	87	58	38	25	18	13	10
Social science	100	86	109	103	76	79	56	25	16	24	18
Medicine	100	92	92	86	92	76	76	70	49	30	17
Dentistry	100	90	90	87	79	81	60	56	30	21	11
Mathematics and physics	100	88	81	83	78	74	63	55	40	30	25
Psychology	100	96	105	112	101	71	72	53	38	35	18
Arts	100	86	82	75	70	65	53	45	38	21	21
Economics	100	83	72	77	75	64	54	43	26	18	17
Veterinary science	100	75	85	100	100	76	66	27	19	15	11
Technology	100	92	83	82	74	65	49	36	19	13	8
Agriculture	100	90	87	67	67	60	41	27	11	16	5
Total	100	89	84	83	79	68	56	44	28	20	14

Percentages sometimes exceed 100 and are sometimes higher than for the preceding year showing an influx from other faculties.

Table 40 is similar to that for grammar school pupils (Table 18), but whereas Table 18 was made after tracing first year enrolment in a given year, over nine years, Table 39 was made by combining the statistical material for one year (number of students by years since first enrolment) with that for several years (number of freshmen by faculty in successive years).

When the number of freshmen is estimated for successive years, the total number of students enrolled can be calculated by using Table 40, in the same way as Table 18 allows the total number of grammar school pupils to be calculated when the number of freshmen in successive years is given.

Table 40 can be made for any year and for the various universities. The material collected is still too scanty however to permit the analysis of variations in the percentages.

NUMBER OF GRADUATES

The best method for calculating the number of university graduates when the number of first enrolments is known is to use a table similar to that for grammar school graduates (Table 20).

Such a table exists for graduates who were first enrolled in the university in the years 1930-1932 and for undergraduates who were first enrolled in the years 1948-1950. The latter table will be completed shortly, and will give the number of graduates as a percentage of the corresponding number of freshmen, and the number of years elapsed since first enrolment.

Lack of statistics meant that post-war forecasts of graduates had to use the figures relating to the 1930-1932 freshmen, or those showing the number of graduates as a percentage of freshmen seven years earlier.

TABLE 41. BREAKDOWN OF THE NUMBER OF GRADUATES 1955-1957, AS A PERCENTAGE OF THE CORRESPONDING NUMBER OF FRESHMEN SEVEN YEARS EARLIER, BY FACULTY AND SEX

	MALE	FEMALE
Medicine	75	55
Dentistry	80	35
Mathematics and physics	60	40
Arts	65	35
Geography	60	30
Law	75	50
Economics	50	30
Social science	50	30
Psychology	65	30
Technology	60	—
Veterinary science	70	35
Theology	70	60
Agriculture	60	50

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[1] Publications are in Dutch with the exception of*.

VI

TRENDS IN UNIVERSITY ENTRY : AN INTER-COUNTRY COMPARISON

by

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INTRODUCTION

This paper is mainly concerned with past growth in the demand for higher education and the light an inter-country comparison can throw on the factors responsible for changes in this demand. The first aim was to select inflows and outflows at strategic points of the route to higher education and to compare their growth during the post-war period.

The second aim was to compare trends in participation rates and transition proportions at different levels of education. And thirdly, there is a brief discussion of some possible causes responsible for the trends.

Where possible, 1950 was taken as the starting point as marking a return to " normal " after the Second World War. The choice of countries was confined to economically advanced nations, and it was further limited by the accessibility of data. The following countries are included in the comparison : Belgium, France, Federal Republic of Germany, Great Britain, Netherlands, Sweden and the United States.

For the most part the paper relates to those who reach universities by means of established channels, simply because these are the most easily identified. Higher education as defined by the Robbins Committee includes a number of technological colleges and courses, and teacher training in addition to universities. Although it would have been desirable to include all these in the comparisons, there was not sufficient time to study and disentangle third level from second level training of engineers or teachers for all the countries included here. Many of the statistics made available to us include technological courses where taken at universities or technological universities. Except for the United States, where many universities run four-year degree courses for intending primary school teachers, teacher training was mostly excluded from the available figures of students entering and graduating from universities.

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[1] The author would like to express appreciation to the following for their help in the collection and analysis of data, and for their advice and criticism : B. Hayward, G. Williams, Mme M. Solliliage, Miss J. Sutherland, *OECD Directorate for Scientific Affairs* ; A. Heim, *Chief Statistician Wissenschaftsrat ;* R. Poignant, *International Institute of Educational Planning ;* R. Ruiter, *Centraal Planbureau, Netherlands ;* Klas Wallberg, *Central Statistical Bureau, Sweden ;* C.A.Moser, P.R.G. Layard, W. Mikhail, Miss C. Phillips, *London School of Economics.*

The time series are thus not always comparable in level or educational standards, nor are they all equally comprehensive. They exclude most part-time or vocational education. They are, moreover, severely limited by the data which were accessible to us. The gaps are particularly obvious where comparisons of the socio-economic origin of students are concerned, partly because of differences in classification and definitions between countries.

There is no need to dwell further on the difficulties of international comparisons, or the inadequacy of material available in any one country. It is hoped that this paper will elicit not only criticism and comment, but also answers to some of the questions which had to be left open.

Part 1

A SUMMARY OF TRENDS[1]

In Table 1, the average annual growth rates of the most significant steps to higher education are summarized. The intention was to cover the years from 1949/50 up to the present; for most countries 1961/62 was the most recent date available. This twelve-year period was split into two six-year spans, but since the time series were not all available for identical years there is some overlap of the first and the second six-year period.

In the subsequent sections, the educational levels will be discussed in turn and the transitional proportions, participation rates and success rates will be interposed between each level. In this summary, the interest lies in the balance of growth between the different levels within each country.

Here one must allow for the differences in time-lags separating each level. For example, whereas there is little time-lag between qualified school leavers and university entrants, the years between entering and leaving the secondary school or between entering and qualifying at university should be taken into account when comparing growth rates.

The ideal comparison of trends in educational flows should of course be made in terms of cohorts, but unfortunately, there is not sufficient information to permit the tracing of successive cohorts through the various stages of the educational process. The following comparison of the growth of different educational levels over the same period is only a crude indication of similarities and differences between countries.

In nearly all the countries, the second half of the period shows a faster rate of growth than the first, and in most it is the growth of upper secondary school enrolment and qualified school-leavers which has shown the most striking increase during the mid-fifties.

But whereas there has been a similar growth of entrants to lower secondary schools[2] in Belgium, France, Sweden and the Netherlands there has been no comparable increase in England and Wales and Germany.

There are also differences between countries with regard to the growth of the number of school leavers who are qualified to enter universities and the growth of the number of those who actually entered universities.

In France, Netherlands, Sweden and the U.S. the number of university entrants grew slightly faster than the number of those qualifying for entrance.

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[1] Sources are listed in the bibliography at the end.

[2] The types of secondary schools chosen for comparison were those normally leading to higher education of university standard, and the lower level relates to one of the classes, new entrants, or age groups below the legal school leaving age, depending on available data. Definitions and descriptions for each country will be found in section 6 and in the appendix tables.

Table 1. SUMMARY OF EDUCATIONAL TRENDS

Average annual percentage increases[1]

COUNTRY	SELECTIVE SECONDARY SCHOOLS				QUALIFIED LEAVERS		UNIVERSITY ENTRANTS		DEGREES AND DIPLOMAS AWARDED	
	LOWER LEVEL		UPPER LEVEL							
	PERIOD[2] COVERED	INCREASE %	PERIOD[2] COVERED	INCREASE %	PERIOD COVERED[2]	INCREASE %	PERIOD COVERED[2]	INCREASE %	PERIOD COVERED[2]	INCREASE %
Belgium			1952-58	4.5			1952-58	4.7	1951-57	4.2
	1955-61	7.6	1955-61	7.9	1955-61	8.0	1955-61	6.0	1954-60	4.3
England and Wales	1949-55	1.1	1949-55	2.9	1951-57	6.5	1951-57	5.4		
	1955-61	2.9	1955-61	6.1	1955-61	10.7	1955-61	5.2		
Scotland					1953-59	4.7	1954-60	4.6		
					1955-61	6.9	1955-61	5.2		
Great Britain (Eng. and Scotland)					1953-59	6.9	1954-60	4.8	1951-57	0.5
					1955-61	10.3	1955-61	5.2	1955-61	4.4
France	1949-55	6.3	1951-57	6.1	1949-55	4.4	1949-55	2.7	1949-55	1.1
	1955-61	7.0	1955-61	9.4	1954-60	7.7	1954-60	9.9	1954-60	6.0
Germany	1949-55	2.5			1949-55	3.9	1949-55	6.1	1951-57	—2.0
	1955-61	—1.8			1955-61	6.6	1955-61	5.0	1955-61	2.1
Netherlands	1949-55	8.9			1949-55	0.1	1949-56	0.0	1949-55	6.3
	1955-61	6.0			1954-60	7.3	1954-60	8.7	1954-60	3.0
Sweden	1951-57	8.7	1951-57	9.5	1951-57	8.4	1950-56	5.3	1950-56	5.6
	1956-62	11.1	1956-62	12.9	1956-62	11.5	1955-61	12.0	1955-61	8.0
USA			1949-55	3.2	1949-55	2.8	1949-55	3.6	1949-55	—4.5
			1955-61	5.6	1955-61	5.3	1955-61	6.2	1955-61	5.3

Source : See Appendix tables for numbers and definitions.

1. At compound interest rates.
2. Academic years, e.g. 1949 = 1949/50.

Available time series were divided into 6-year periods. In some cases where all twelve years were not available these overlap.

In Germany the number of university entrants grew faster than that of qualified school leavers during the first half of the period and somewhat more slowly during the second half. In Great Britain, the growth in university entrants lagged behind that of qualified leavers, but a rising percentage of the school leavers continued their further education in technical colleges and teacher training colleges.

Except for Great Britain which has a tradition of low failure rates the number of degrees awarded has increased less than the number of university entrants. The subject of failure and wastage at universities will be discussed below (page 158), but it must be stressed here that the great variation in the length of courses and the lack of follow-up studies of students make it difficult to draw any firm conclusions on changes in university failure rates.

It may be useful at this stage to consider briefly the relative importance of different policy variables which may be responsible for differences in growth rates.

Most European schools which prepare pupils for higher education are selective. The character of the schools varies widely in different countries, as do the methods of entry and of selection. The great variation in the rate of growth of the number of entrants suggests policy differences. For instance, decisions are taken with regard to maintaining the *status quo* or the opening of new lycées or grammar schools, or re-designation of old primary or middle schools, or changes to a comprehensive system. Even in countries where entry to grammar schools is nominally left to the choice of parents, policy decisions are required to provide places and teachers for one type of school rather than for another.

On the other hand, much of the growth of upper secondary enrolment could be ascribed to the rising economic and social standards and expectations of pupils and their parents, but policy also plays a part. For example, in Great Britain there are financial advantages to schools to keep pupils beyond the statutory school leaving age and, in contrast to Germany, the less successful pupils are not normally expelled or transferred. In some countries maintenance grants are paid to older pupils, and in Belgium the number of these has increased substantially in recent years.

The number of qualified leavers depends to a large extent on examination policies. Where the examinations are held by independent bodies, these can exert an important influence on the overall proportion of candidates who pass the qualifying examination.

Increased numbers of university entrants depend on a great number of factors, but policy decisions to provide the extra facilities, and decisions with regard to direct aid to students, are undoubtedly major factors in Europe where most universities are publicly supported and financed. In the United States it is likely that the " social mobility mechanism "[1] is the major driving force in the demand for university places.

Finally, the attitude of the university towards its students is vital in determining the proportion of entrants who eventually graduate. There are great differences here between countries.

These remarks are gross over-simplifications of the complex relationships involved, and a great deal of research is needed to look further into the effect of the different variables.

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[1] See Beresford Hayward : OECD document DAS/EIP/63.31.

THE OUTPUT OF GRADUATES

For the economic planner, a major interest of the education system lies in its products and in their level of skill and attainment. But the number of persons who are awarded various qualifications in a given year is the ultimate resultant of a great number of factors : institutional, political, social and psychological, which have had their separate effects on the individual throughout his previous career. The effect of changes in these factors is not precisely known.

The following paragraphs will be confined in the first place to a comparison of rates of graduate output, followed by a description of trends in the number of degrees and diplomas awarded within each country. Student wastage and the length of study will be discussed in the succeeding section.

The nature and standard of degrees and diplomas awarded by universities in different countries varies so widely that any direct comparison is of limited validity. For the following comparisons of trends and growth rates no such equivalence of standards or levels is implied. All that the trends are intended to show is the change in the number of persons holding specified higher qualifications.

A COMPARISON OF GROWTH

The rate of increase in the output of graduates since 1950 has varied considerably between countries (see Table 2). Although the choice of years affects the average percentage changes somewhat, inter-country differences are sufficiently large to indicate the divergence between countries such as Belgium and Sweden with consistently rising output of graduates, and Germany and the Netherlands with almost constant or falling numbers in the fifties. The overall growth of the number of first degrees in France is relatively low, and even lower in the US and Great Britain, but as will be seen in chart 1 attached, there have been considerable fluctuations in France and in the US, whilst in Great Britain the second half of the period is one of uninterrupted growth.

POST-WAR TRENDS

The year-to-year changes can be seen in Chart 1, where the number of degrees and diplomas awarded are plotted on a log scale. The figures include both first and higher degrees and diplomas, but it must be noted that the movement of first and higher qualifications has not been parallel.

Most countries experienced a post-war bulge of ex-servicemen or veterans returning to complete their higher education. Since the actual length of study varies so much between countries the peak of post-war graduations falls in different years.

In the **US** the 1950 peak was followed by rapid falls up to 1954-55. After that the number of degrees conferred started to rise again. By 1963 the number of Bachelors' degrees had not reached the 1950 peak, but the number of Masters' degrees conferred had, by 1958, outstripped the 1951 peak, and the number of doctorates shows a steady increase throughout the post-war period[1].

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[1] According to a statement by the US Office of Education, the number of Bachelors' degrees rose 12 per cent to 460,467 in 1964, which is above the 1950 figure. Masters' degrees rose 11 per cent to 101,000 and doctorates by 13 per cent to 14,500. (*The Guardian*, Feb. 12th 1965.)

TABLE 2. DEGREES AND DIPLOMAS AWARDED

RECENT GROWTH[1]

Per cent.

COUNTRY	DESCRIPTION OF QUALIFICATION	PERIOD COVERED ACADEMIC YEARS	AVERAGE ANNUAL PERCENTAGE CHANGE[2]
Belgium	First and higher degrees..............	1951-60	4.5
France	First degrees (licence)	1949-60	3.7
Germany	State exams	1951-61	1.5
	Doctorates	1951-61	—3.1
Great Britain.	First degrees	1949-61	0.6
	Masters and Doctors.................	1951-61	3.4
Netherlands .	Kandidaats examen only	1949-62	3.5
	Final degrees	1949-60	—0.2
	Doctorates	1949-60	4.3
Sweden......	*Fil Kand* & *Mag*	1950-60	6.5
	Doctorates	1950-60	3.6
USA	Bachelors	1949-61	—0.5
	Masters and Doctors.................	1949-61	3.4

1. Growth rates of the latter half of the period are in Table 1.
2. At compound interest rates.

Source : See Appendix Tables.

The pattern of the post-war peak and subsequent trough was similar in **Great Britain,** but both were less pronounced. The number of first degrees and diplomas remained almost constant between 1951 and 1957 and then began to rise again, but the number of higher degrees — Masters and Doctors — almost doubled[1].

In Sweden the number of degrees and diplomas awarded increased almost every year with little sign of flagging and since 1957 this increase has taken place at an accelerated pace. Our figures for the *Fil Kand* and the *Fil Mag* degrees are not shown separately, but there is a separate series for doctorates. Although the number of doctorates has fluctuated, the overall rate of increase has been almost as high as for first degrees. As a neutral country, Sweden's educational problems were in some ways different from

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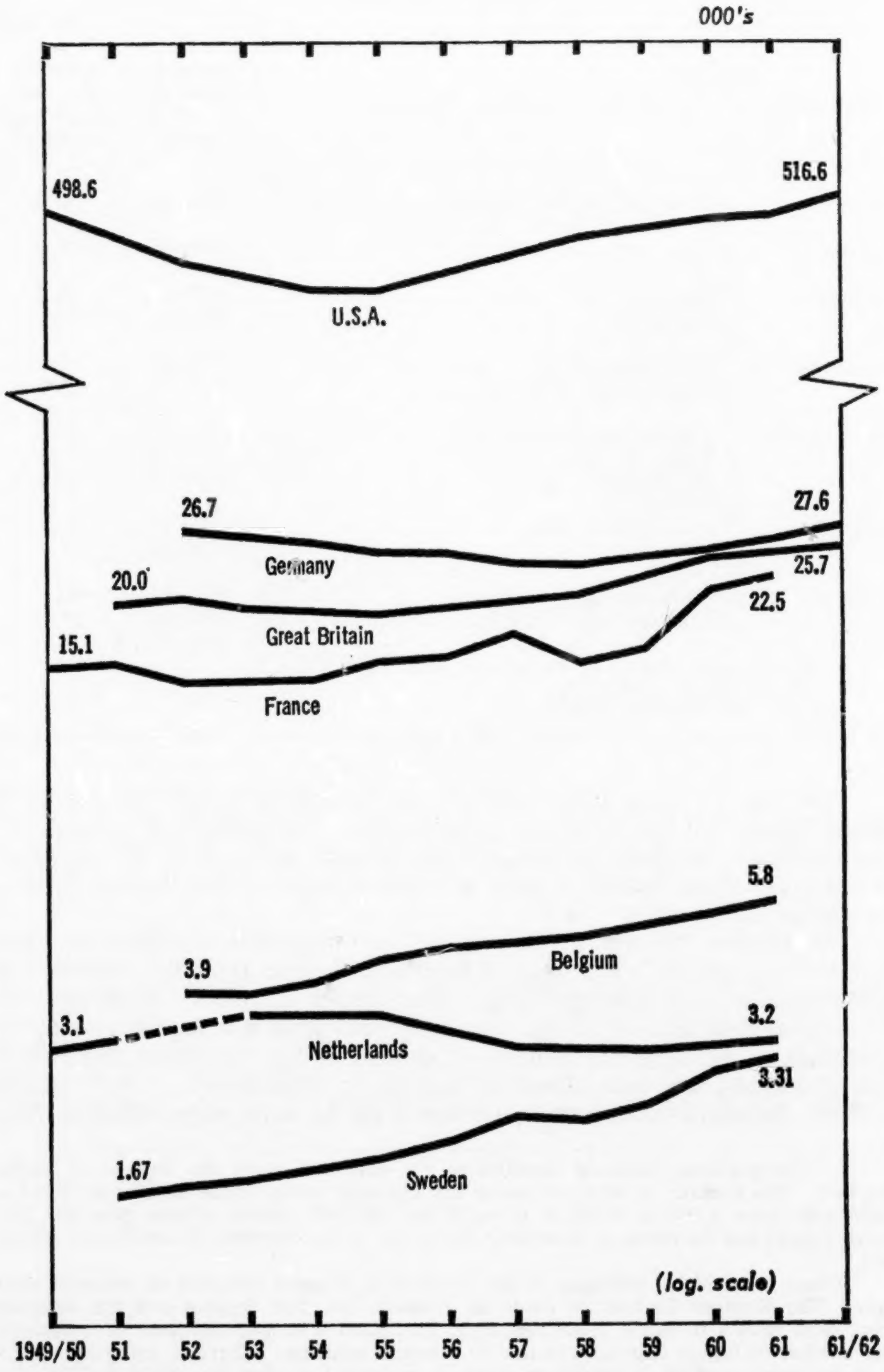
[1] Postgraduate teachers' certificates are excluded from the figures of higher degrees. The number of students taking the one-year postgraduate certificate of education rose from 3,300 in 1950/51 to 4,470 in 1961/62. (Since failure rates are low, these figures can be taken as indicating the trend of the number of certificates awarded.)

There is no direct evidence of the number of degrees awarded to overseas students. The Robbins Committee made an estimate for first degrees and this estimate used here relates to home graduates only, but there was no valid way of estimating the number of higher degrees awarded to overseas students. There is *indirect* evidence that the percentage of postgraduate overseas students has risen (see Robbins, Two (A) [40] but it cannot be concluded that the proportion of postgraduate degrees conferred on overseas students has risen in the same proportion as the numbers enrolled.

Chart 1. DEGREES AWARDED (INCLUDING DOCTORATES)



Source : See Appendix Tables.

those of other countries. There is no evidence of a post-war rush to the universities. The steady increase in the output of graduates particularly during the latter half of the period may be partly due to increased public aid to students whether by scholarship or interest-free loan.

Belgium also shows a steady rise in the number of students completing their higher education, but the French figures (which relate to first degrees only) show some violent fluctuations which are not really explained by fluctuations in the intake of students 4 or 5 years earlier.

In **Germany** after a slight drop following the 1952 peak, numbers remained more or less constant up to 1960 when they began to rise again. This overall trend conceals the fact that the numbers passing their *State Exams* rose while the number of doctorates fell over the 1952-62 period. This is partly due to the decline of doctorates taken as a first degree, bypassing state or diploma exams.

In the **Netherlands,** there has been a slow decline in the number of degrees awarded since 1953. The number passing first degrees (kandidats, *mag.* and *doctorandus*) fell but the number awarded doctorates has increased. The closing of the universities during the last years of the war has resulted in a very high post-war peak of graduations. The length of the masters degree (over years) means that this peak occurred later than in other countries (1953-55).

POSTGRADUATE STUDIES

The causes behind these trends and growth rates are manifold. The immediate cause of course, is the number entering universities a number of years previously (see page 161). Secondly, there are the factors which will affect the proportion of students graduating once they have entered universities (discussed on page 158). Connected with this is the time taken by students to complete their courses ; and lastly there is the proportion of graduates who proceed to higher degrees.

To begin with the last named influence, graduate studies increased in relative importance both in the United States and in Great Britain. Public financial support has played an important part in this. In the **US,** the GI Bill which provided generous Federal support to returning veterans was partly responsible for the post-war peak in graduations and again for the rise after the end of the Korean war. But Federal support was also available to finance research and thereby stimulate graduate studies, particularly since the post-Sputnik age. Federal funds of course provide only a partial explanation of the forces encouraging graduate studies and the pressure of increased job-requirements, e.g. for secondary school masters, has also contributed to the rise in the number taking Masters' degrees[1].

There is little doubt that in **Great Britain,** public policy with regard to the financing of universities and of direct aid to students has played a major part in deciding the *overall* size of universities. The balance between undergraduate and postgraduate studies, however, is for the main part left to the universities to decide. However, in the case of home postgraduates, the number who are able to study full-time depends to a great extent on the number of studentships awarded. There are numerous private awards. but the main impetus, particularly since 1958, has come from Government sources. Thus the number of DSIR studentships (intended for science postgraduates) doubled between 1957/58 and 1962/63[1].

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[1] See Berelson [2].

It was not possible for us to ascertain in the limited time available whether similar public encouragement of graduate studies has taken place in other European countries.

SUCCESS AND FAILURE AT UNIVERSITIES

Graduation is the culmination of a lengthy process and it is part of the aim of this paper to trace the stages of this process. The ultimate success of students is of great interest to anyone concerned with manpower needs and with the efficiency of the educational system in satisfying this need. The wastage rate of students and the time students take to complete their courses beyond the standard period depend on many influences.

For example to some extent wastage is a reflection on the efficiency of universities as teaching institutions, but it also reflects examination standards and policies.

Apart from drop-out due to examination failure, there is always a certain amount of wastage for personal reasons. Lack of funds leads to drop-out and it also affects the length of study[2]. The increase of scholarships to students has enabled a larger number of them to study full-time without recourse to paid employment, and this led to a shortening of the average time of study, but we lack the evidence to demonstrate this[3]. Another factor is the nature of university entrance or qualifying examinations and conditions in selecting candidates suitable for particular studies. Flexibility in the choice of courses and the possibility of an alternative qualification (such as the British pass degree) will reduce failure rates. Also important are political factors outside the control of educational institutions, e.g. military service in conflicts such as the Korean or the Algerian war during the period under discussion.

Unfortunately we were unable to assemble direct evidence on changes in success or failure rates from studies available to us (except for Great Britain), let alone examine the causes responsible. The following section is presented with the understanding that far more evidence is needed to deal with this subject adequately.

In theory, a comparison of graduates at any given time with entrants a specified number of years previously, should give some indication of changes in the success and wastage rate. However the time taken by European students to complete their studies varies greatly, not only between countries, but also between universities and faculties, as well as between students. To base the success rate on an average duration may be misleading since the number of entrants has fluctuated considerably (see Chart 2, p. 160).

In the OECD. *Third Survey* [19] an attempt was made to relate graduates to new entrants by 5-year time lags, but for the reasons stated above and recognized by the authors (in para. 179), only the broadest conclusion could be drawn. This qualification also applies to the following paragraphs, on changes in wastage rates.

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[1] Studentships in Arts subjects also increased during the same period from 248 to 327. See Robbins, Two (A), p. 236, [40].

[2] See section 3, Financial Aid to Students.

[3] According to G. Kath [9] the percentage of students who had to depend wholly or partly on their own earnings fell from 45 per cent in 1956 to 22 per cent in 1963, but this was due to a larger proportion depending on their parents for support.

CHANGES IN WASTAGE RATES

There was little direct and comprehensive evidence on student wastage and its causes. The following summarises what little evidence it was possible to assemble.

Taking **Great Britain** first, there is a section on student success and wastage in the Robbins Report, Appendix Two (A). Much of this is based on samples of three student generations entering in 1952, 1955 and 1957, conducted by the University Grants Committee. The analysis is by faculty and by university, but the latter are kept anonymous. Table 3 summarises the findings :

GREAT BRITAIN

TABLE 3. WASTAGE RATES OF UNDERGRADUATES IN FACULTY OF ARTS, SCIENCE AND TECHNOLOGY

ENTRANTS IN	PERCENT WHO LEFT WITHOUT SUCCESS
1952	16.7
1955	13.6
1957	14.3

Source : U.G.C. survey published in Robbins, Appendix Two (A), Pt. IV. [40]

As in the other countries, success and failure rates vary greatly between faculties and between universities. The causes of failure are fully analysed in Robbins 2A [40] and in a study by Dr. N. Malleson [13]. Briefly, it was found that failure rates remained relatively constant within a given department of a particular university, and it may be that the proportion of students who are failed tends to become almost a departmental habit[1].

Failure is only one cause for drop-out, but since in Great Britain all students are entitled to financial aid subject to the size of their parents' income, financial reasons are not regarded as an important reason for wastage in that country. There appeared to be no difference between the wastage rate of students from manual and non-manual homes. (Robbins Two A [40], p. 137.

For the **Netherlands,** there are two surveys, one of pre-war and one of post-war students 1948-50 [42]. On average, 60 per cent of freshers qualified for the *Kandidaats examen* within six and a half years. (The minimum period is 3 to 4 years.) This success rate varied widely between faculties. A comparison with the survey of the pre-war student generation shows that wastage was lower before.

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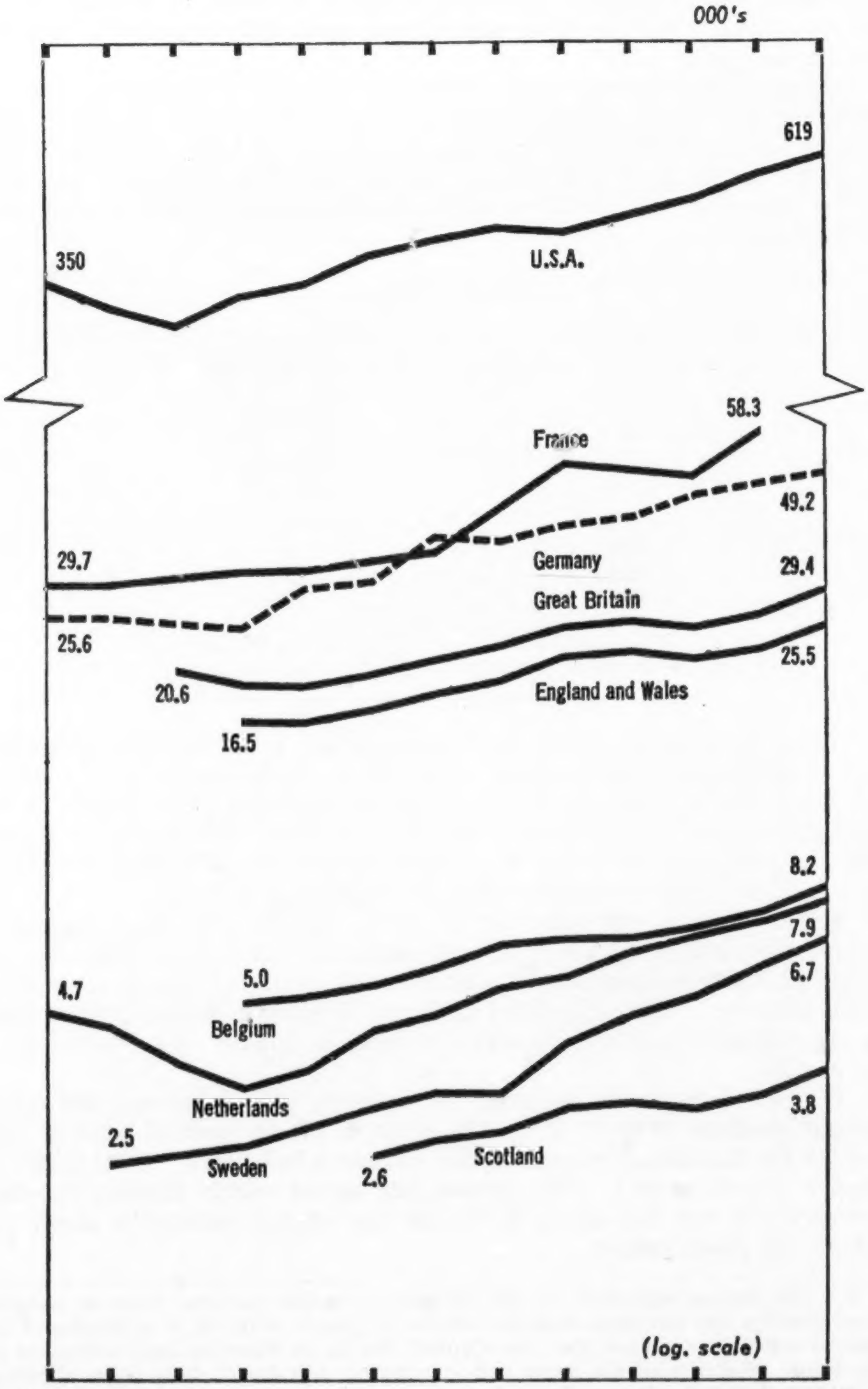
[1] The reasons advanced for this difference are that the time taken to complete the examination has increased, that the number of papers to be taken is larger and that standards are higher. Since then, the Central Bureau of Statistics have compared the final degree graduates of the same two generations and found that, when allowance has been made for the longer time taken, the percentage passing was lower in technology and medicine, higher in arts, and about the same in pure science. The 1948-50 entrants are however not regarded as typical of the postwar students, and later generations are believed to have been more successful.

Chart 2. UNIVERSITY ENTRANTS



Source : See Appendix Tables.

In **France,** the first year examination, the **propedeutique,** is regarded as a " weeding out " operation. The pass rates are extremely low — they vary from 45 per cent to 60 per cent. But because of the number of " re-sits " it is difficult to determine the ultimate success rate and how far it has changed. For the forecasts of university places, the *Bureau Universitaire* [30], had to make some assumptions on future failure rates based on past experience. Failure rates appear to have increased in science faculties and fallen slightly in the arts faculties. Without knowledge of French universities and the effect of recent changes and reforms, it is not possible to infer whether there has been any change in overall failure rates.

There seems to be some divergence of views on the overall success rate of **German** students[1]. In the Wissenschaftsrat [31] projections it is suggested that the percentage of students who leave prematurely (after 2 years) has risen from 5.9 per cent to 11.3 per cent during the 7 years preceding 1962[2]. As to the length of study, the percentage who were enrolled for more than 4 years has risen from 61.1 per cent to 70.1 per cent between 1953 and 1957 entrants respectively. From a recent study (the figures kindly supplied by Mr. Heim of the Wissenschaftsrat), it appears that the overall average length of study of successful candidates has not changed substantially since 1960. But as in other countries, there are great differences between faculties, and a wide dispersion over a range of 8 to 15 or more half-year terms (semesters).

The US Department of Health, Education and Welfare relate bachelors degrees to first-time enrolment four years earlier[3] since 1949. The percentage completing their degree fluctuated between 54 and 65 per cent, but the trend is towards a lower proportion graduating.

UNIVERSITY ENTRANTS

The previous part was concerned with the influence which determines the percentage of university entrants who eventually qualify. In this section, there is first a comparison of growth rates between countries over the period, followed by a description of trends within countries. Secondly, this section will deal with changes in participation rates (entrants in relation to the age group) and thirdly, with changes in transition proportions (entrants in relation to qualified school leavers).

GROWTH

Growth of the numbers entering universities has been rapid in nearly all countries during the period. The rate of increase was highest in Sweden (9.4 per cent) and lowest in Great Britain (3.6 per cent). In most of the other countries the annual increase was between 4 per cent and 7 per cent. See Table 4.

TRENDS

The rate of increase since 1950 has been by no means uniform. In nearly all the countries surveyed, the second part of the period saw an accelerated rate of growth, while during the first part numbers were either falling or almost constant.

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[1] See Robbins, Appendix Five [40], p. 88.

[2] *Op. cit.*, p. 21.

[3] E.g. *Earned Degrees conferred 1961-62,* OE - 54013 - 62, Circular No. 719, Washington, 1963.

The exceptions to the falling or stagnant trend in university entry during the early 'fifties were **Sweden** and possibly **Belgium,** but figures for the years before 1953 are not available. In the **US** also the rise was almost continuous since 1952.

The figures for the **US** relate to universities and liberal arts colleges only. Entrants to Junior Colleges and professional schools are excluded here (but included in column 4d of Appendix Table IX). In fact, entry to Junior Colleges and teacher colleges grew at a much faster rate (almost 8 per cent per annum) between 1954 and 1961 than entry to universities (5.3 per cent) or to Liberal Arts Colleges (7 per cent) over the same period[1]. The US statistics on entrants to all higher education include part-time students which are excluded from statistics for other countries. Part-timers were about 19 per cent of total *enrolment* in 1958, but their proportion has declined in recent years. There is no long-term information on part-time *entrants.*

TABLE 4. FIRST ENTRANTS TO UNIVERSITIES

AVERAGE ANNUAL PERCENTAGE INCREASE[1]

Per cent.

COUNTRY	DESCRIPTION	PERIOD ACADEMIC YEARS	AVERAGE ANNUAL PERCENTAGE CHANGE[1]
Belgium	First registrations	1953-61	6.1
France	*a*) Public faculties	1949-62	7.0
	b) All institutions	1949-60	6.3
Germany	Universities	1949-61	5.6
Great Britain.	Universities	1951-62	3.6
Netherlands .	Universities	1949-61	4.4
Sweden......	Universities	1950-61	9.4
USA	First time (Fall) enrolment at universities and Liberal Arts Colleges	1949-61	4.8

1. At compound interest rates.
Source : See Appendix Tables.

In **Great Britain,** the number of first entrants to universities began to recover during the mid-fifties after the drop in numbers following the post-war peak. The growth since then has been relatively slow compared with most of the other countries. These trends exclude full-time entrants to higher education at technical colleges ("further education") who have increased at a spectacular rate — over 17 per cent per annum between 1954 and 1962 (from 4,091 to 14,683) ; they also exclude students entering teachers training colleges whose numbers grew by 4.8 per cent per annum (despite the burden imposed by the extension of the training course by one year during the last three years of this period). The increase of university entrants over the same 8-year period was 5.3 per cent per annum[2].

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[1] Comparisons with years before 1954 are slightly invalidated by a re-classification of institutions.

[2] See Robbins, Appendix One, Annex T. [40].

The rise in the number of university entrants in the **Netherlands** has been steep since 1953 and in **France** since 1956. But since the French statistics of " nouveaux inscrits " include an unknown quantity of double registrations and possibly re-registrations, they are not a reliable indicator. The **German** figures show sharp increases between 1953 and 1956 and a slightly slower rate of increase after that.

ENTRANTS IN RELATION TO THE AGE GROUP

How far has this generally rapid increase in university entrants simply parallelled changes in the sizes of the age group ? The birth cohorts of those ages likely to be affected decreased over part of the period due to the depression of the thirties and the war, although the fall in the number of births was by no means uniform in different countries. The post-war bulge of births had not reached the universities. Consequently the expansion in numbers has meant increased participation rates in the countries surveyed (see Table 5). In Sweden, the participation rates rose from 2.8 per cent to 7.2 per cent in 10 years, a growth of nearly 10 per cent per annum. The corresponding average increase for France was over 7 per cent per annum (over a 12-year span). On the other hand, participation rates increased by only 1.1 per cent per annum in the Netherlands and 2.1 per cent per annum in Great Britain. The US annual increase in participation rates was substantial (4 per cent), considering that the original level was already high.

It must be stressed that inter-country comparisons of the percentages themselves are not appropriate. The population data are very approximate, the data on entrants of varying reliability, coverage or comparability.

If all full-time higher education were included, the British figures would show an increase in participation rates from 5.8 per cent in 1954 to 8.5 per cent in 1962, an average increase of 4.9 per cent per annum in 8 years, compared with 2.8 per cent per annum for universities alone. Inclusion of part-time higher education will increase participation rates still further to 11.4 per cent in 1958 and 14 per cent in 1962 (earlier years are not available).

Inclusion of all higher education in the US shows an increase of participation rates from 23.6 per cent in 1950/51 to 36.1 per cent in 1960/61, an annual rate of increase of 4.4 per cent compared with 4.1 per cent for universities and Liberal Arts Colleges only for the same period.

In the case of the US, however, it is not clear from the statistics on first time enrolments whether entrants to universities exclude students entering from Junior Colleges ; if they do not, then the participation rate of first time entrants in all higher education is over-stated. This would also apply to migration between universities.

ENTRANTS IN RELATION TO QUALIFIED SCHOOL LEAVERS

The previous section has shown how far the increased number of university entrants has meant relatively greater participation of the age groups. But two of the immediate determinants of university entry are the number of those with appropriate entry qualification[1] and the percentage of qualified persons who wish to enter a university. It is this latter percentage — the transition rate between those who qualify and those who enter — which will be discussed here.

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[1] The names of the qualifications are given in Table 8.

TABLE 5. ENTRANTS TO UNIVERSITIES AS PERCENTAGE OF THE AGE GROUP[1]

ACADEMIC YEARS	BELGIUM	FRANCE	GERMANY	GREAT BRITAIN	NETHERLANDS	SWEDEN	USA
		PUBLIC FACULTIES					
1949/50 ...		3.6	3.5				16.2
-51 ...		3.9	3.7		2.9	2.7	14.6
-52 ...		3.9	3.7	3.1	2.5	2.9	14.4
-53 ...		4.2	3.4	3.0	2.3	3.0	15.5
-54 ...	4.1	4.3	3.7	3.1	2.4	3.5	16.5
-55 ...	4.7	4.5	3.6	3.2	2.8	3.8	19.2
-56 ...	4.9	4.6	4.2	3.4	2.8	4.0	20.0
-57 ...	5.6	5.7	4.0	3.5	3.2	3.9	20.4
-58 ...	6.4	7.5	4.1	3.9	3.3	4.7	20.4
-59 ...	7.1	7.8	4.0	4.1	3.7	5.2	21.2
-60 ...	6.8	7.1	4.5	4.2	3.8	5.5	20.6
-61 ...	6.3	7.7	5.1	4.1	3.8	6.5	20.0
-62 ...	6.8	8.0	5.8	4.1	4.0	6.9	21.8
-63 ...		(9.3)		4.0			

1. The age group is defined in Robbins, Appendix Five [40].

Source : See Appendix Tables for Belgium, France, Netherlands, Sweden, U.S.
Great Britain : Robbins Appendix One [40].
Germany : Wissenschaftsrat [31].

Table 6 indicates the changes in the proportion of qualified school leavers who proceed to universities. A comparison of the actual percentage would be misleading for several reasons : the term " qualified " has different meanings in different contexts. The proportions who go to other institutions of higher education (such as technical colleges) vary in different countries. The time lag between school leaving and university entrance may vary for a number of reasons, such as military service, desire for practical working experience, etc.

Except for Sweden and the US, there is no evidence of rising transition porportions. In Great Britain, the percentage of qualified leavers who went to university fell nearly every year since the mid-fifties[1]. However, the proportion going on to other sectors of higher education has increased since 1955. The minimum entry qualifications for the sectors are generally lower than those for universities and a simple comparison of transition rates is not really appropriate[2].

The figures for **France** should be interpreted with caution. They relate first registrations at public faculties to numbers who passed the second part of the baccalaureat during the preceding years. If all higher institutions were included, the percentage would exceed 100 per cent in some years. This is partly due to double registrations and re-registrations and partly to alternative entry qualifications held by some " nouveaux inscrits " for instance in the law faculty.

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[1] The transition rates are slightly higher than those in Robbins, Appendix One because the latter includes those who took their A-level certificates outside the school.

[2] The subject is treated fully in Robbins, Appendix One, Part IV.

In Germany the percentage fluctuated considerably. Both university entrants and qualified school leavers increased almost every year since the low point of 1953, but the increase was at unequal rates. A two or three-year moving average may iron out these fluctuations and reveal a constant rate.

In the **Netherlands,** on the other hand, the fluctuations in the transfer rate are due to the increase in the number of entrants since 1953 which was not paralleled by the trend in qualified leavers, at least not until 1959. As stated above, the **US** figure relates first time enrolment at Liberal Arts Colleges and universities to high school certificates. The inclusion of Junior Colleges and other higher education would increase the 1951/52 proportion to 39 per cent, and the 1961/62 proportion to 53 per cent compared with 25 per cent and 32 per cent respectively for universities and Liberal Arts Colleges alone. There has been a tendency in recent years for more of the school leavers to go to Junior Colleges for the first two years of their 4-year degree course[1].

ENTRY CONDITIONS

Conditions of entry to universities vary widely between Great Britain, most of the other European countries and the USA. The school-leaving certificate such as the *baccalaureat* or *Abitur* is normally sufficent to guarantee entry to public faculties in France, to universities in Germany, Sweden, Belgium and the Netherlands. There are some additional requirements, e.g. in the Netherlands, demanding a particular type of certificate, such as " A " or " B " for arts or science faculties. Furthermore, access is restricted in faculties where laboratory space places a limit on numbers (e.g. in Sweden and Germany), but non-admitted candidates are often simply asked to wait for one or more semesters instead of being rejected for good[2]. The *grandes écoles* in France hold competitive entry examinations.

In Great Britain 2 A-levels are regarded as minimum conditions for university entrance, but since the number of places offered by each university is limited, the actual entry requirements will depend on the number of applications and on the actual standard reached by applicants. Entry is in fact highly competitive.

In the **US,** automatic right of entry obtains at some State Colleges, but many universities and colleges impose their own criteria for selection. Since the standard of the high school leaving certificate varies widely between the schools, the Scholastic Aptitude Test is used by many institutions as one of the guides for selection, but it would be misleading to generalize when there is so much diversity of practice.

FINANCIAL AID TO STUDENTS

Entry conditions can thus explain some of the differences in transition rates and their changes over time. Another important factor is the extent of public aid to students. Most advanced European countries have now accepted the principle that students should not be prevented from proceeding to higher education through lack of funds, but the conditions and the extent of student aid vary considerably.

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1. But see p. 163, for the possibility of duplication.
2. See Fourth Conference of European Ministers of Education [7].

TABLE 6. ENTRANTS TO UNIVERSITY AS PERCENTAGE OF QUALIFIED LEAVERS

YEAR	BELGIUM	ENGLAND AND WALES	FRANCE	GERMANY	NETHERLANDS	SCOTLAND	SWEDEN	U.S.A.
1949-1950 .	—	—	—	82.1	56.0	—	55.6	29.2
-1951 .	—	—	76.4	83.5	52.4	—	57.8	—
-1952 .	—	80.1	75.4	94.4	47.1	—	55.1	24.9
-1953 .	—	74.7	77.4	102.5	43.7	—	56.9	—
-1954 .	—	74.6	74.7	92.7	45.4	80.5	59.3	27.7
-1955 .	—	76.7	74.6	94.7	53.5	78.9	56.7	—
-1956 .	57.4	77.2	66.3	93.4	55.4	77.5	51.5	30.5
-1957 .	59.8	78.4	81.6	85.1	62.3	81.6	57.5	—
-1958 .	61.1	75.1	80.2	85.4	56.7	80.5	60.8	29.7
-1959 .	61.7	69.6	80.5	78.8	63.1	76.4	61.2	—
-1960 .	61.1	64.9	78.8	82.0	61.8	69.5	65.9	27.6
-1961 .	53.6	62.3	77.2	83.5	57.8	71.6	62.6	—
-1962 .	51.3	—	77.4	85.4	—	—	—	32.1

Source : See Appendix Tables.

The following table prepared by the Economist Intelligence Unit compares expenditure on student awards in different countries.

TABLE 7. PUBLIC EXPENDITURE ON STUDENT AWARDS (1960 OR 1959)

COUNTRY	PUBLIC EXPENDITURE TOTAL *U.S. $ mill.*	PUBLIC EXPENDITURE PER STUDENT IN HIGHER EDUCATION *U.S. $*
France	20.5	82
Germany	13.1	46
Netherlands	12.7	174
Sweden	11.2	323
U.K.	98.9	329
U.S.	611.1	173

Source : Frank Bowles — *Access to Higher Education* — Appendix C — Financial Aid to Students (EIU).

NOTE. Direct aid probably includes loans as well as grants although this is not made explicit in the table.

Direct expenditure per student is highest in Great Britain : the size of awards and the percentage of students who receive them (98½ per cent in 1962/63) are both high. Moreover they are all outright grants, not loans. Expenditure in Sweden is almost as high. It is relatively low in Germany and even in France.

Differences in the average amount of student aid as such cannot explain the differences in the proportion of school leavers who went to universities — since in Great Britain there are other limitations on entry discussed above. They are, however, at least partly responsible for the differences in social composition of the student body in different countries (see page 187); they also affect the average length of study (see page 154) through the time spent by students on earning a living.

In addition the increased opportunity of obtaining an award has had a major influence on the proportion of school-leavers wishing to go to university (whether they succeeded in getting there or not).

Thus in **England and Wales** the number of local authority awards taken up by first-year students grew from 10,000 in 1950 to 47,000 in 1963[1]. The size of awards depends on parents' income but every student gets at least £50.

In **France** the number of scholarships doubled between 1955 and 1961 (from 27,500 to 54,000). See R. Poignant [6]. The number of scholarships given to Belgian students increased from 1,800 in 1955-56 to 10,000 in 1960-61.

In the **Netherlands** the number of university scholarships rose from 4,223 (14 per cent of all students) in 1955-56 to 10,961 (29 per cent of all students) in 1959-60[2].

In **Germany** on the other hand, the percentage of students financed by the so-called Honnef Modell has gone down from 19 per cent in 1958-59 to 15 per cent in 1962-63, but the total paid out under this scheme has risen. There are other public awards available which have increased in number since 1956, but the percentage of students entirely supported by their parents went up from 33 per cent in 1956 to 47 per cent in 1963[3].

Since the proportion of students with *Abitur* who go to university is very high[4] (90 per cent of men and 55 per cent of women) lack of finance does not appear to act as a deterrent to higher education at this stage, but it may well deter those pupils who decide to leave after the 10th grade.

QUALIFIED LEAVERS

In the part dealing with transition proportions, it was observed that with few exceptions the rising trend of university entrants reflected a similarly rising trend in qualified leavers. To some extent the two interact: in Europe, the higher school leaving examinations are often designed to prepare pupils for entry to higher education (whether or not they succeed in this task). On the other hand, the prospect of a university career encourages more pupils to continue their secondary education and to prepare for university qualifying examinations. Thus most of the factors which act as inducement to university entry, and which were treated above, also operate here and need no further mention.

Pupils have, however, additional reasons for taking these certificates. They can open the way to other types of professional training not necessarily academic or formal and to employment. This is true of Great Britain, where employers frequently advertise for school leavers with " A " levels.

---

[1] Most undergraduate awards are now paid through local authorities. Some of these have taken the place of State Scholarships which were awarded on the basis of A-level results. Oxford and Cambridge Scholarships are supplemented by local authority awards.

[2] See Poignant (6).

[3] See Kath (9).

[4] Wissenschaftsrat (31), p. 73. It should be noted that the percentages in Table 6 relate entrants to leavers during the previous year. The percentage in the Wissenschaftsrat is based on relating entrants to the actual year of their *Abitur* which may be 2 or 3 years preceding university entrance.

In the US almost three-quarters of the school population complete the 12 primary and secondary school grades (presumably) awarded a certificate without necessarily contemplating college entrance.

THE NATURE OF QUALIFYING EXAMINATIONS

The term " qualified " has a large variety of meanings in international comparisons. The criterion taken here is a certificate which will allow the holder access to higher education[1]. The limitations and exceptions to this right of access were discussed in the previous section. Further limits are set by requiring different types of certificates, e.g. latin/mathematics, latin/greek, mathematics/science, in some European countries. But on the whole, the type of certificate awarded in the European countries included here is sufficiently general to allow holders to study a wide variety of subjects. In Britain, the " A " level certificate tends to be too specialized to allow a great deal of choice and there are both " general " university requirements and departmental " subject " requirements which limit the choice still further.

There are also differences between countries in the manner in which the certificates are acquired. In some, e.g. Germany, Netherlands, examinations are conducted by the schools (but subject to approval by an outside examiner). In Belgium, the approval of a central jury is required before the certificates give access to the universities. In France examinations for the second baccalaureat are centrally conducted. In England and Wales, there are 8 examination boards which are independent although nominally connected with universities. It is probable that examinations conducted centrally or regionally tend to be less flexible in content than those held by the schools ; it is also possible that they show higher failure rates, but we have not been able to assemble any evidence for this[2].

RECENT GROWTH

The trend of voluntary staying on which has resulted in unprecedented growth of upper secondary schools is reflected in the growth of qualified leavers. As in the case of university entrants, this growth has meant increased participation rates of the relevant age group[3].

The average annual growth of qualified leavers was highest in Sweden (9.0 per cent) followed by England and Wales (8.8 per cent), and Belgium (8.0 per cent). In the US it was 4.0 per cent ; as mentioned before, the percentage of the population who obtain the high school certificate was already so high in 1949 that the possibility of growth was limited.

TRENDS

The trends in Chart 3 show an accelerated rate of growth in recent years for most countries. This rising growth rate is particularly marked in England and Wales and in Sweden since the mid-fifties, and in Belgium since 1959. The Netherlands also show rising trends since 1957, following a period of almost constant numbers and this trend has been maintained up to 1963/64. In Germany, France and the US there is some sign of a slowing down of growth since 1960. (See Table 8 and Chart 3.)

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[1] See Appendix tables for a description of qualifications in each country.

[2] A-level passes in England and Wales as a percentage of entries was 68 per cent in 1962. (See Robbins, App. One, p. 84). In France the success rate for the second part of the baccalaureat was very similar, 65 per cent on average (Poignant (6), p. 88).

[3] The typical age of leaving school is also taken to be the typical age of entering higher education (see Robbins, Appendix Five (40), Table 7, page 11).

TABLE 8. SCHOOL LEAVERS WITH UNIVERSITY ENTRANCE QUALIFICATIONS

RECENT GROWTH

Per cent.

COUNTRY	DESCRIPTION OF QUALIFICATIONS	PERIOD COVERED (SCHOOL YEARS)	AVERAGE ANNUAL PERCENTAGE CHANGE[1]
Belgium	Certificates approved by jury[2]	1955-61	8.0
France	Baccalaureat (2nd part)	1949-60	6.4
Germany	Abitur	1949-61	5.3
England and Wales	2 or more ' A ' Levels	1951-61	8.8
Scotland	3 highers and 2 lowers	1953-61	6.6
Netherlands	Certificate which gives access to university examinations	1949-60	3.6
Sweden	Student examen	1950-62	9.0
U.S.A.	High school certificate	1949-61	4.0

[1] At compound interest rates.
[2] " jury d'homologation. "
Source : See Appendix Tables.

There are a number of possible causes responsible for this trend. One of them — the pull of a prospective university career — has already been discussed. The following two sections will only show two numerical relationships : the rate of staying on or retention rates — and the entry rate to the selective secondary school system.

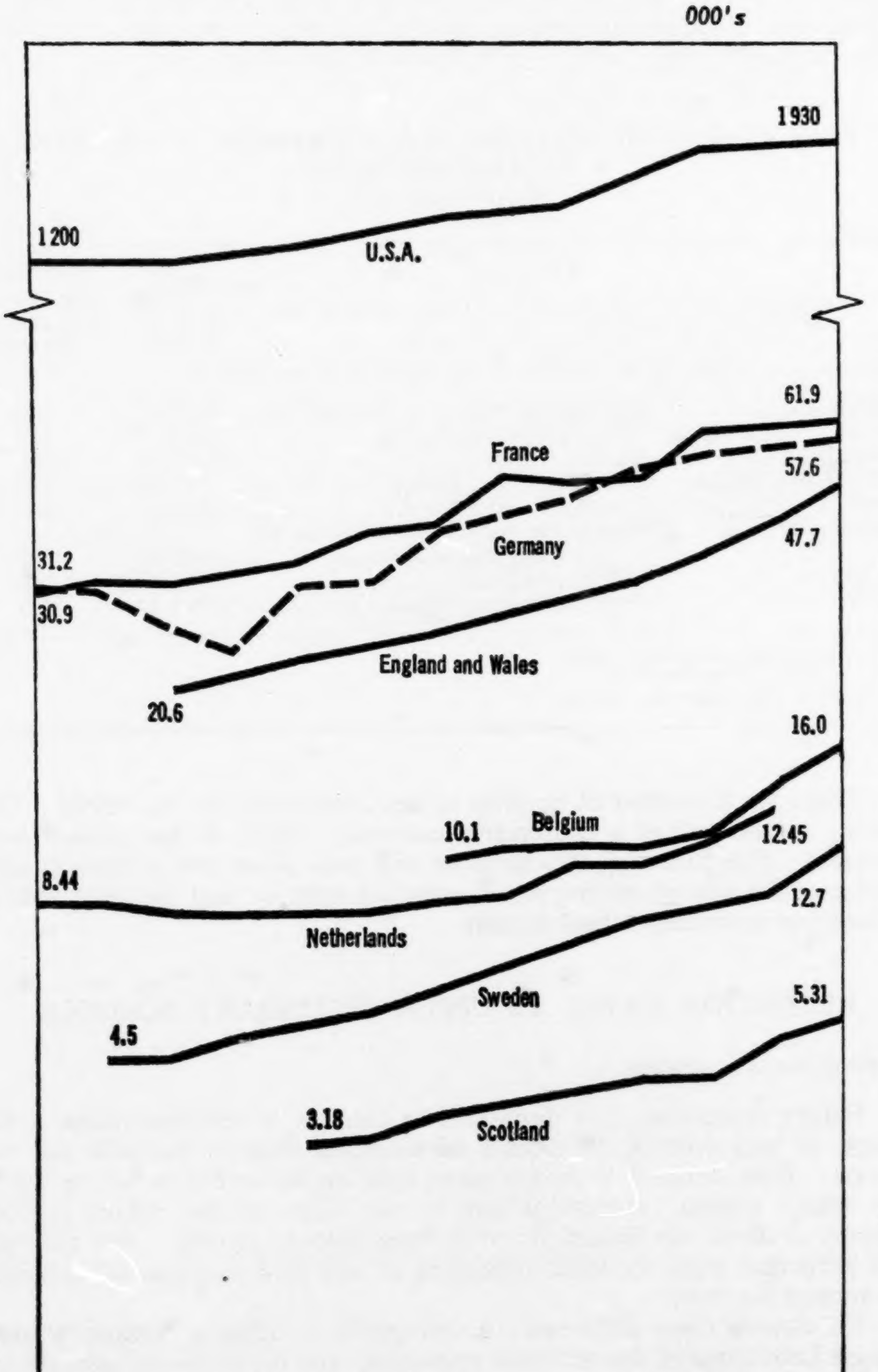
RETENTION RATES AT UPPER SECONDARY SCHOOLS

STAYING ON AT SCHOOL

Before proceeding to a discussion of changes in retention rates, a discussion of inter-country differences of retention rates is desirable for two reasons. First, because it throws some light on the structure of the secondary school system as brought out by the slope of the cohort profiles. Secondly, it shows the limitations on the possibility of growth. For example, for a particular grade the trend of staying on will slow down as the retention rate approaches unity.

To discuss these differences meaningfully is difficult without a more intimate knowledge of the countries concerned, and the following remarks are made in the broadest terms. For example, the existence of a respectable qualification in the " middle range " such as the English " O " level or the German " Mittel Reife " will induce pupils to leave school at this point. Passing this sort of examination can lead to further professional training below

Chart 3. QUALIFIED SCHOOL LEAVERS



university level or to jobs with reasonable prospects. Many of those who continue beyond this half-way qualification will do so only if they feel that there is a good prospect of passing the higher qualification and entering universities.

Retention rates inferred from successive enrolment stocks measured in grades or classes have a different slope from those based on age. The practice whereby pupils repeat grades profoundly affects the slope of retention rates based on grades.

Apart from the nature and timing of examinations, differences in social composition of selective schools may be another explanation for the differences in retention rates. German and Netherlands grammar school pupils come from a narrower social background than those in England and Wales or even France (see page 188). M. Poignant [22] has demonstrated how the drop-out rates of pupils from different home background differ at lycées[1]. In England and Wales also, it is clear from a survey conducted in 1961[2] that children from working class homes leave earlier than those with, for example, professional parents.

But social composition is only one explanatory variable. In England and Wales, we find that in the fee-paying sector retention rates are lower than in the public sector, particularly for girls. This is partly because it

TABLE 9. RETENTION RATES OF PUPILS IN SELECTIVE SCHOOLS

LATEST AVAILABLE COHORT

Per cent.

	DESCRIPTION OF BASE = 100	% REMAINING AFTER GRADES OR YEARS					
		1	2	3	4	5	6
England and Wales :							
a) free grammar schools	Age 13	—	97	69	44	17	
b) fee paying schools	Age 13	—	88	64	38	12	
Germany :							
Hohere Schule	Quarta	92	84	77	52	46	43
Netherlands :							
v.h.m.o. (Grammar school)	First entrants	89	83	74	64	44	
U.S. All schools	7th grade	97	94	87	78	70	

Source : *England and Wales* — Statistics of Education Pt. 1, 1963, pupils born in 1944.
Netherlands [43] — Survey of grammar school pupils entering in 1949.
Germany — See Table 12 (attendance period 1953-61).
U.S. — 1963 Abstract — Table 151, attendance period1954-62.

NOTE. All figures could include an unknown number of net transfers from other schools. The exceptions are the U.S. figures which relate to all schools, and the Netherlands survey which is based on a follow-up study.

All figures except for England and Wales relate to grades, not years. Pupils retaking grades are liable to swell the numbers particularly in the last year. There is no repeating of grades or forms in England and Wales. Repeated rates are believed to be high in Germany, Netherlands and France.

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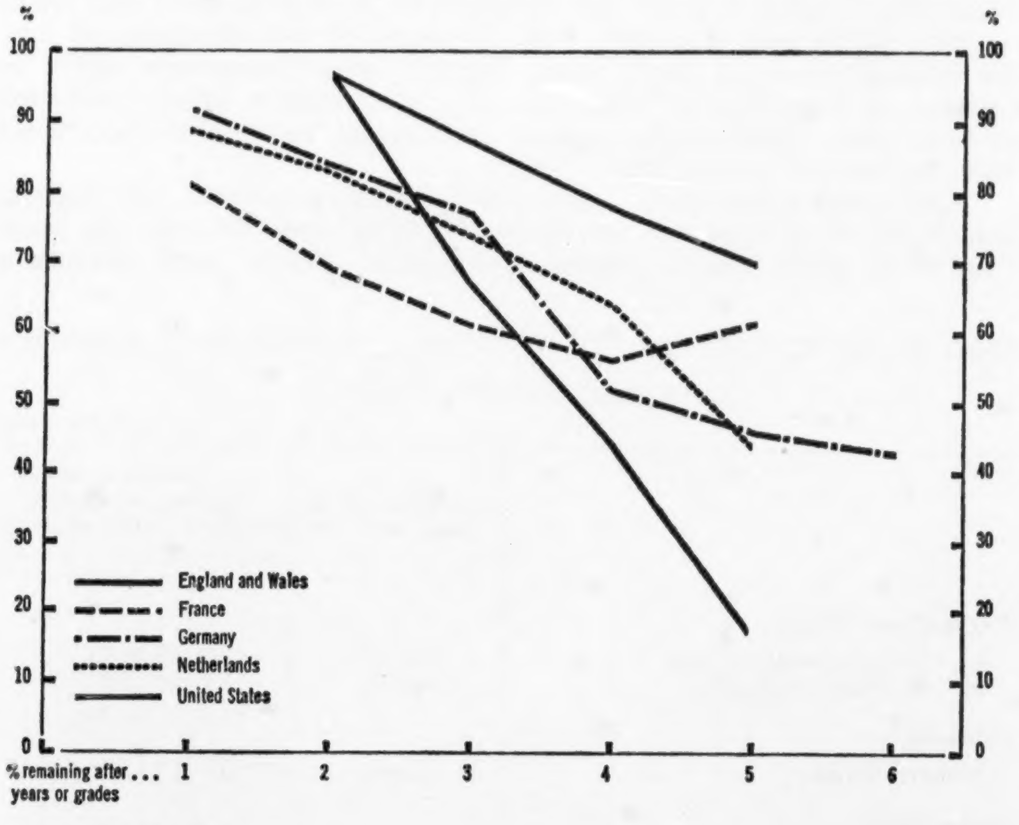
[1] Table 9 relates to classical lycees only and since transfer to modern lycees is possible total retention rate would show a different sort of picture.

[2] Ministry of Education [35a] Supplement.

includes a number of children who were unable to pass the entrance examination to selective schools and also failed to reach the required standard at O level. On the other hand, from the survey mentioned above[1] it appears that the percentage of working class boys at grammar schools in the top ability group who continue their education do as well as those from professional homes[2]. It is amongst those with good to average grades that the influence of home background on attainment and drop-out becomes most obvious. This was confirmed by Mr. O. Ruin [[24]] for Swedish children.

Chart 4. RETENTION RATES OF PUPILS IN SELECTIVE SCHOOLS



Source : Table 9.

CHANGES IN RETENTION RATES

This comparison of retention rates helps towards an understanding of the different structures of upper secondary schooling and the nature of the changes which have taken place. Expansion of university preparatory schooling was the result of either an expanded intake or a reduced drop-out or both. Changes in entry are dealt with below. Changes in retention rates are illustrated here from cohort profiles in England and Wales, Germany and the US. There were no similar data for other countries accessible to us.

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1. Ministry of Education [35a] Supplement.
2. See Ministry of Education [35a] and Robbins, Appendix One [40], page 45.

ENGLAND AND WALES

The interpretation of cohort profiles in Table 10 needs some qualification. The percentage of a cohort remaining at school after a number of years or grades is inferred from enrolment statistics in successive years. In the case of maintained grammar schools a certain amount of transfer takes place from modern schools at the age of 13 and again at the sixth-form stage ; on the other hand, pupils from grammar schools may transfer to direct grant and independent schools. Numerically these transfers are not important. Cohort profiles drawn up for all schools (see Ministry of Education [35]) show similar characteristics although the actual percentages are lower, of course.

Age is only an approximate indication of the grade or form of pupils enrolled. The age of taking " O " levels at maintained grammar schools is usually between 15½ and 16½, and " A " levels are taken 2 years later. In Chart 5 the enrolment date relates to January. Most pupils take their examinations in the summer. Those who stay beyond 18 may do so to sit for the Oxford and Cambridge entrance examinations.

Nearly all grammar school pupils now stay to 15 (91 per cent attempted " O " levels in 1963). The percentage of 16-year olds (as percentage of 13-year olds 3 years earlier) rose from 54 per cent in 1955 to 73 per cent in 1963, and the percentage of 17-year olds increased from 30 per cent in 1956 to 46 per cent in 1963. These are steep increases within a relatively short period, and have resulted in the great expansion of the sixth-forms (preparatory forms for university and other higher education entrance) of grammar schools. For instance, numbers in sixth forms rose from 60,800 pupils in 1954 to 113,600 in 1963 (an average annual increase of over 7 per cent). This expansion was thus mainly due to increases in retention rates and, as will be seen below, not to increased entry to grammar schools.

ENGLAND AND WALES

TABLE 10. RETENTION RATE OF PUPILS AT MAINTAINED GRAMMAR SCHOOLS

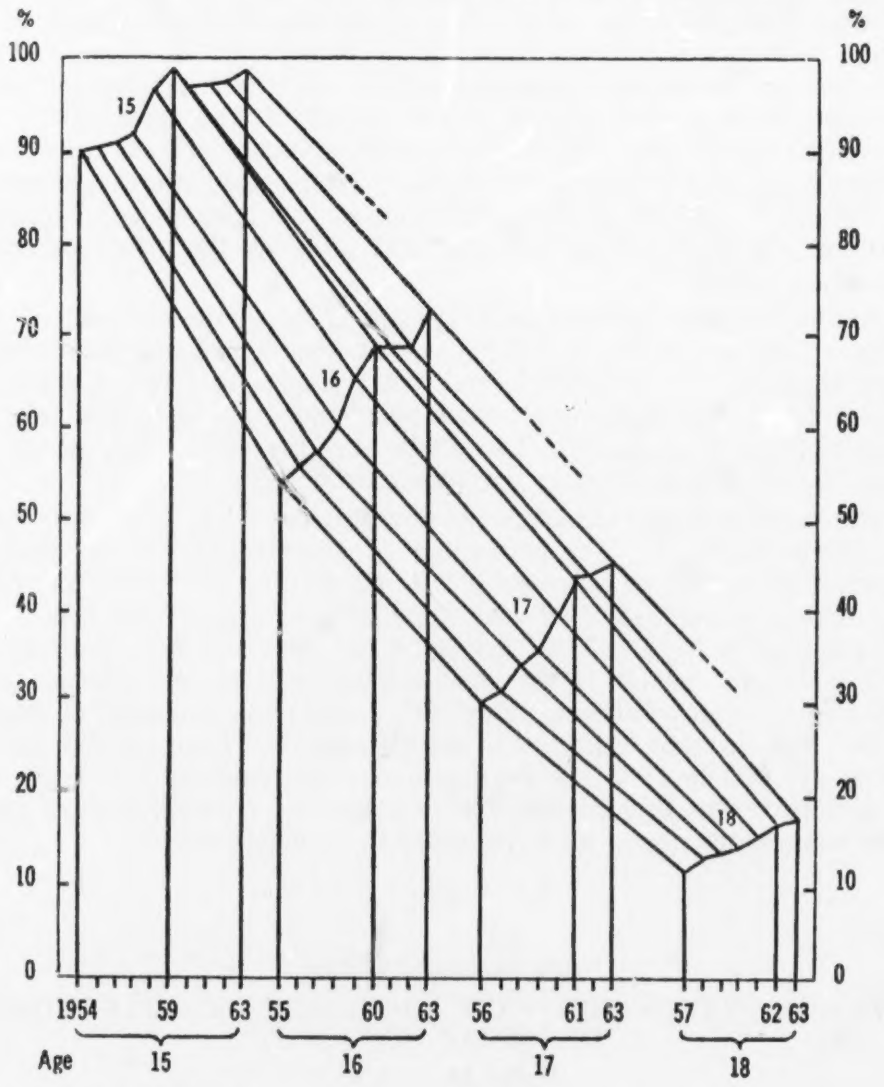
Age 13 = 100

Per cent.

YEAR OF BIRTH	PERCENTAGE OF 13 YEAR OLDS REMAINING AFTER			
	2 YEARS	3 YEARS	4 YEARS	5 YEARS
1938	89.7	54.1	30.1	11.9
1939	90.3	56.0	31.8	13.1
1940	90.5	57.5	34.2	13.7
1941	91.9	60.4	36.2	14.1
1942	96.6	65.6	40.0	15.6
1943	99.2	69.0	43.8	16.8
1944	97.2	68.6	44.0	17.3
1945	97.3	68.6	45.5	
1946	97.7	72.7		
1947	98.9			

Source : Ministry of Education Statistics, Pt. 1, 1963.

Chart 5. RETENTION RATES MAINTAINED GRAMMAR SCHOOLS (ENGLAND AND WALES) COHORTS BORN BETWEEN 1938 AND 1947



Source : See Table 10.

GERMANY

We were able to construct similar cohort profiles for Germany based on a study in *Wirtschaft und Statistik,* 1963 [32], which shows the retention rates at the gymnasium both by age and by grade. The age enrolment data are not quite complete and this accounts for some of the broken lines. The profiles by grade are complete and also provide a better indication of ultimate success since some pupils repeat grades if they fail to pass the end-of-year examination or the final leaving examination.

The German grammar school is probably more narrowly based than the British schools. The retention rates are higher and this places a limit on the possibility of rapid increases in the rates. Even so the fanning-out between the 10th and 11th grade suggests increasing transfer rates at this stage.

GERMANY (F.R.)

TABLE 11. RETENTION RATE OF PUPILS BY AGE AT GRAMMAR SCHOOLS

Age 13-14 = 100

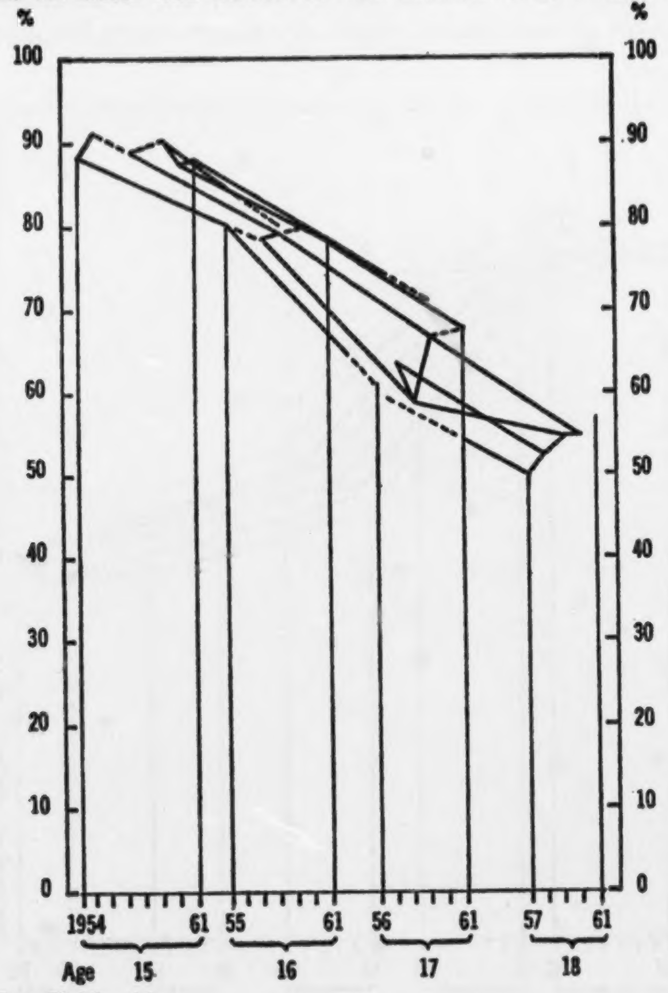
Per cent

AGE 13 IN	15-16	16-17	17-18	18-19
1954	88.2	79.8	.	49.6
1955	91.3	.	63.5	52.4
1956	.	78.4	58.4	54.6
1957	88.8	79.0	66.4	54.6
1958	.	.	.	.
1959	90.2	79.7	67.5	.
1960	88.0	78.5	.	.
1961	87.7	.	.	.

Source : See Table 12.

Chart 6. RETENTION RATE AT GERMAN GRAMMAR SCHOOLS

PUPILS IN EACH AGE GROUP AS PERCENTAGE 13-14 YEAR OLDS



Source : See Table 11.

GERMANY (F.R.)

TABLE 12. RETENTION RATE OF PUPILS AT GRAMMAR SCHOOLS BY GRADE

Grade 7 = 100

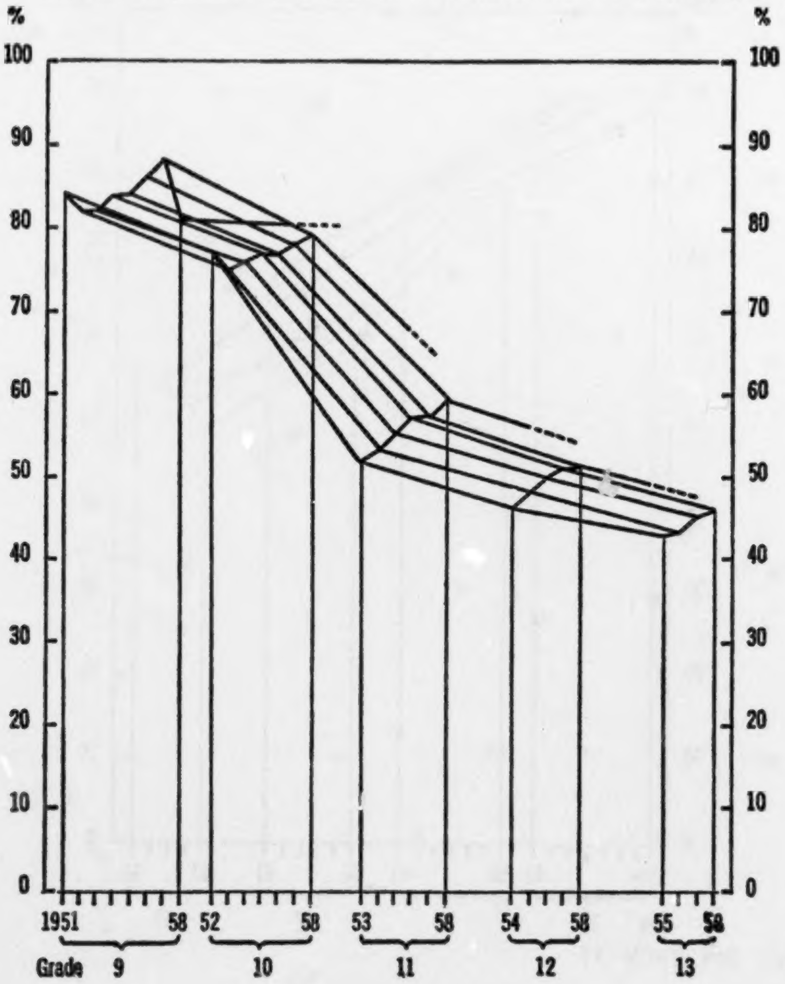
Per cent.

PERIOD OF SCHOOL ATTENDANCE	PERCENTAGE OF 7TH GRADE ENROLLED IN :				
	9TH GRADE	10TH GRADE	11TH GRADE	12TH GRADE	13TH GRADE
1950-1958	84	77	52	46	43
1951-1959	82	75	53	48	43
1952-1960	82	76	55	50	45
1953-1961	84	77	57	51	46
1954-1962	84	77	57	51	.
1955-1963	86	78	59	.	.
1956-1964	86	79	.	.	.
1957-1965	81	.	.	.	.

Source : " Der Besuch von Gymnasien, " 1952-1961. Wirtschaft u. Statistik 1963-1965.

Chart 7. RETENTION RATE AT GERMAN GRAMMAR SCHOOLS

PUPILS IN EACH SCHOOLGRADE AS PERCENTAGE OF 7th GRADE



UNITED STATES

The situation here is very different from that in Europe. The enrolment and retention relates to all schools. That the percentage completing 12th grade of " high school " should have risen from 54 per cent to 68 per cent in 12 years is remarkable since this is higher than the percentage of pupils completing their full school course at selective secondary schools in Europe.

UNITED STATES

TABLE 13. CHANGES IN RETENTION RATES OF PUPILS AT ALL HIGH SCHOOLS

Fifth grade = 100

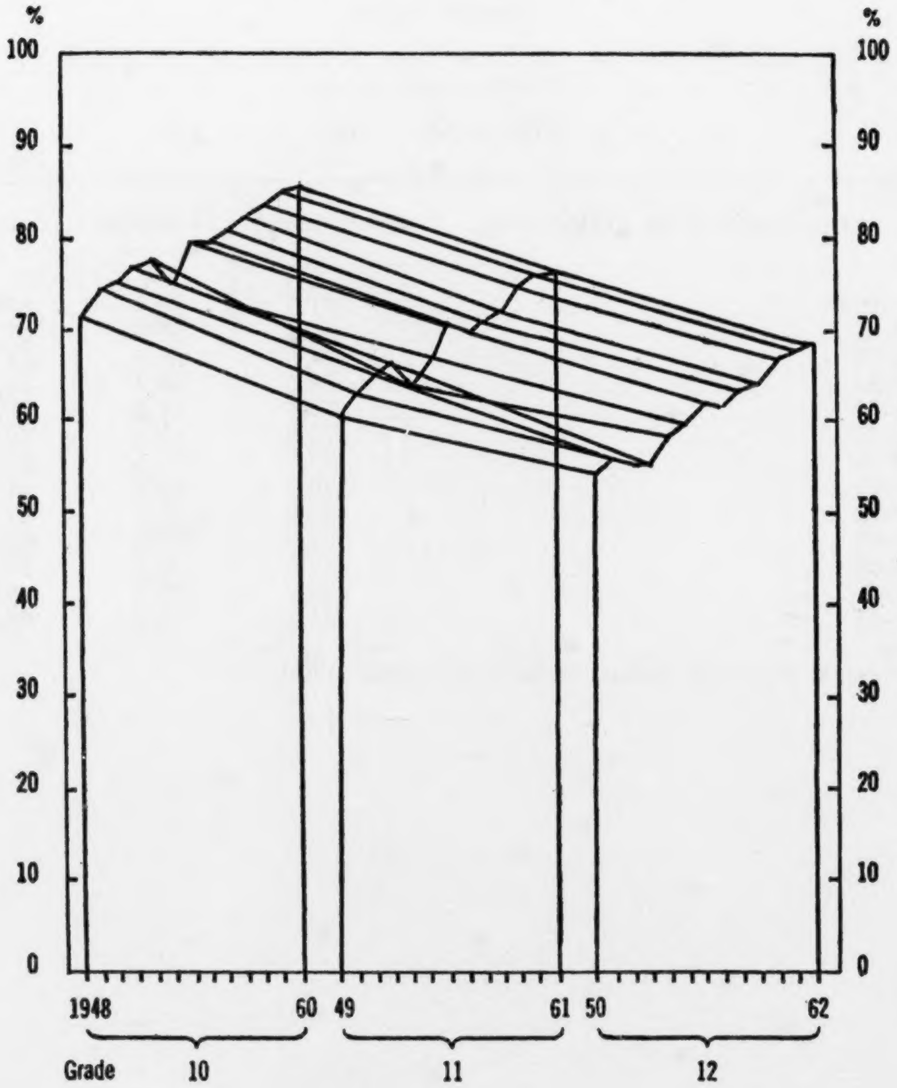
Per cent.

PERIOD OF SCHOOL ATTENDANCE	10-GRADE	11-GRADE	12-GRADE
1942-1950	71.3	60.4	53.9
1943-51	74.5	63.0	55.7
1944-52	74.8	65.0	54.9
1945-53	76.6	66.2	55.2
1946-54	77.5	64.1	58.3
1947-55	74.8	67.0	59.4
1948-56	79.5	70.6	61.9
1949-57	79.5	69.8	61.4
1950-58	80.9	70.9	63.2
1951-59	82.0	71.9	64.0
1952-60	83.5	74.6	66.7
1953-61	85.2	75.9	68.0
1954-62	85.5	76.4	68.4

Source : Statistical Abstract of the United States (1963).

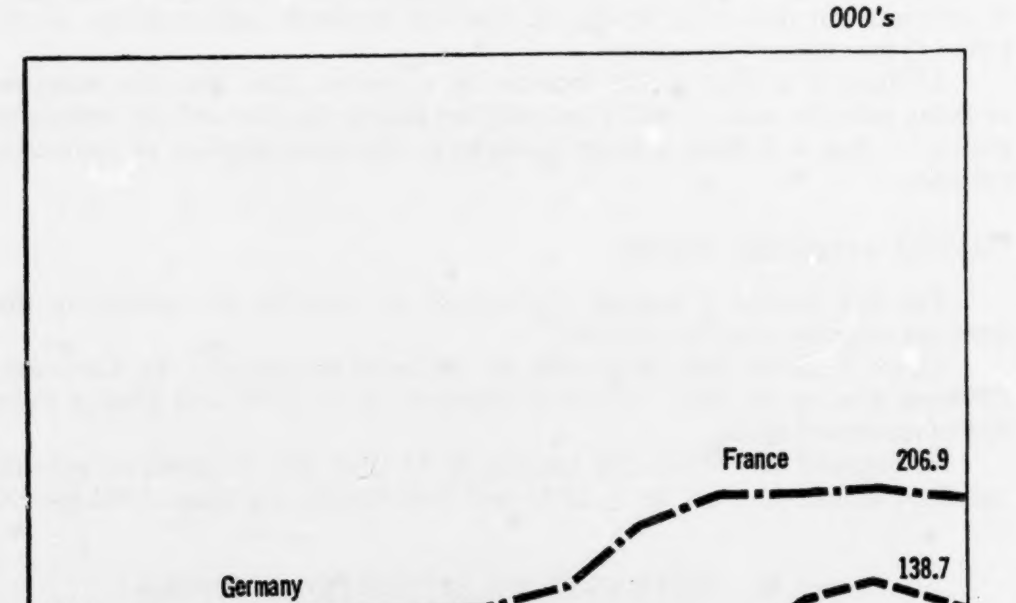
Chart 8. RETENTION RATES AS US SCHOOLS

Pupils in each schoolgrade as percentage of 5th grade



Source : See Table 13.

Chart 9. PUPILS AT ENTRY OR LOW AGE IN SELECTIVE SCHOOLS



Source : See Appendix Tables.

ENTRANTS TO SELECTIVE SCHOOLS

As was seen in Table 1, enrolment was rising in upper secondary schools in all the countries. In the preceding section we discussed changes in retention rates for a given number of entrants. In this section the changes in entrants are discussed, firstly, in absolute numbers and secondly, in relation to the relevant age group.

If there is a limit to the increase in retention rates then the numbers entering selective schools will eventually determine the demand for university places — that is if these schools continue as the main supplier of university entrants.

GROWTH RATES AND TRENDS

For this reason it seemed appropriate to examine the growth in the numbers entering selective schools.

Chart 9 shows that there was no uniform movement. In **Germany,** numbers rose up to 1953, remained constant up to 1956 and after a drop slowly recovered again.

In **England and Wales** the number of 13 year olds at grammar schools remained almost constant up to 1955 and then rose slowly up to 1961 except

TABLE 14. ENTRANTS TO SELECTIVE SCHOOLS

COMPARISON OF GROWTH

Per cent.

COUNTRY	DESCRIPTION OF ENROLMENT	PERIOD COVERED	AVERAGE ANNUAL PERCENTAGE INCREASE[1]	
			NUMBERS	ENROLMENT RATIOS
Belgium	Sixième at lycées :			
	a) latin section..........	1954/55-1960/61	8.7	5.5
	b) all sections...........	»	9.6	6.4
England & Wales	Age 13 at grammar schools :			
	a) maintained	1949/50-1961/62	2.0	—0.3
	b) direct grant	»	1.8	—0.4
France	Sixième :			
	a) public lycées	1949/50-1961/62	7.8	4.3
	b) private secondary	»	4.4	1.0
Germany	Quarta (7th school year)	1949/50-1961/62	0.3	1.4
Netherlands	First entrants to grammar schools (v.h.m.o.)	1949/50-1961/62	7.5	4.2
Sweden	Real skola enrolment	1951-1960	4.2	0.0
	Real skola diplomas	1951-1962	10.3	6.1
	Gymnasium first entrants	1951-1962	11.2	6.9

1. At compound interest rates.
Source : See Appendix Tables.

for a drop in 1959. In **France** the increase was rapid particularly between 1955 and 1959. **Belgium** showed rapid increases from 1955 to 1962. In the **Netherlands** numbers rose up to 1959 and declined thereafter. In **Sweden,** the increase of entrants to the gymnasium was rapid and continuous, but this represents the upper level of secondary education ; the increase in middle school enrolment was much smaller.

ENTRANTS TO SELECTIVE SCHOOLS IN RELATION TO THE AGE GROUP

Because of the post-war bulge in the number of births, participation or enrolment as percentage of the population has not increased by as much as the number of entrants[1].

But apart from the possible limitation imposed on the selective school by the increase in births, there are striking differences here between countries which can be seen in Table 15.

In **England and Wales,** the percentage of the age group entering selective schools has been kept more or less constant over the period. It is true that this period saw the beginning of comprehensive schools and these now take 5.5 per cent of 13 year olds. There is also the opportunity to take O-levels at certain secondary modern schools. Moreover there has been a steep rise in the number of GCE courses taken outside the schools (at " further education " colleges). But nevertheless the constant participation rates of grammar school entry contrasts with the rising rates of entrants in **France, Belgium** and **Sweden.**

In **Germany** the participation rates increased over the period but with fluctuations. In the **Netherlands** the percentage rose rapidly up to 1957 and remained more or less constant after that.

The actual percentages for different countries are not directly comparable. The schools are not all exclusively concerned with preparation for university entrance, neither are they necessarily the only schools preparing for university entrance. Their role in this respect varies in different countries and affects the actual percentage. For example, the function of the so-called " middle school " in Germany or Sweden as preparation for certain non-graduate professions is probably the same as that performed by the British Grammar school.

Nevertheless, the unequal rates of growth suggest differences in policy. The French government has not hesitated to build new lycées in response to public demand, and this must have been true for Belgium and Sweden. According to German writers (e.g. Dahrendorf[2]) there is little demand for a grammar school education by parents below the middle class. In Britain, parental demand for grammar school places far exceeds the supply but has been resisted by public authorities except for the encouragement of GCE streams at secondary modern schools and the permission to build comprehensive schools. The reorganisation of secondary education " on comprehensive lines " promised by the present government is thus largely in response to parents' demand for better educational opportunities for their children.

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[1] See Table 14, last column.

[2] Dahrendorf [4].

TABLE 15. ENTRANTS TO SELECTIVE SCHOOLS AS PERCENTAGE OF THE RELEVANT AGE GROUP

SCHOOL YEAR	BELGIUM ALL LYCEES	ENGLAND AND WALES			FRANCE	GERMANY	NETHERLANDS	SWEDEN
		MAINTAINED	DIRECT GRANT	INDEPENDENT	PUBLIC LYCEES	GYMNASIUM	V.H.M.O.	GYMNASIUM
	as % of age 12	*as % of age* 13		*as % of age* 14	*as % of age* 11	*as % of age* 12-13	*as % of age* 12	*as % of age* 17
1949-50	—	17.4	2.2	—	10.6	13.7	9.6	9.3
50-51	—	16.8	2.1	—	11.5	12.3	9.6	10.6
51-52	—	16.9	2.2	—	12.5	13.4	10.3	11.1
52-53	—	17.0	2.1	—	14.2	14.4	10.8	12.8
53-54	—	17.6	2.2	—	15.0	15.5	11.9	13.3
54-55	35.4	17.6	2.1	—	15.5	17.1	12.5	14.0
55-56	37.4	17.2	2.1	—	15.8	18.2	13.2	14.5
56-57	41.6	16.9	2.1	—	17.5	17.8	14.0	15.8
57-58	37.9	16.8	2.1	7.1	19.0	15.5	15.2	18.2
58-59	44.0	16.8	2.1	6.8	17.9	16.7	12.8	20.9
59-60	47.9	16.4	2.0	6.6	17.5	16.8	15.0	20.4
60-61	51.3	16.2	2.0	6.3	18.0	16.5	15.5	21.8
61-62	50.7	16.8	2.1	6.1	(17.7)	16.1	15.7	22.1
62-63	—	—	2.2	6.2	(18.6)	—	(15.9)	—

Source : See Appendix Tables for Belgium, England and Wales (Maintained and Direct grant), Netherlands, Sweden.
England and Wales : Independent schools, see Robbins (Appendix One), p. 233.
France : A. Girard [8] technical lycees were excluded from 1961/62 and 1962/63 for the sake of comparability with earlier years.
Germany : Wissenschaftstrat [31], p. 41, Table 12.

NOTE. Horizontal comparisons should be avoided as schools are not comparable in coverage or standard.

Part II

FACTORS AFFECTING THE DEMAND FOR PLACES

POLICY VARIABLES

Policy variables discussed in Part I were found to be of the utmost importance in stimulating or inhibiting the flow of students or pupils. The stimulus takes the form of the provision of education facilities, e.g. buildings, teachers, etc., or direct financial incentives — such as student aid, research grants, etc.

By contrast a brake is applied to educational flows at strategic transitional points by selection procedures, tests and examinations. The point at which these brakes are applied varies in different countries and so does their frictional force. The chief aim of the braking system is to maintain high standards but a subsidiary cause is frequently simply the lack of resources to provide additional educational facilities, and this lack of facilities may incidentally raise academic standards.

If policy is interpreted broadly to mean any measure which public authorities or institutions take (or fail to take) with regard to education, then policy decisions are in fact dispersed. The degree of dispersal, however, varies between countries ; in France, with a highly centralized system, policy generally means central government policy. In federal countries, e.g. the United States, most policy decisions rest with the States. In Germany the federal structure also limits the influence of the central government. In the UK the position lies half-way between central and local control. For although most of the initiatives is left to Local Education Authorities there are numerous ways by which national policy can be enforced.

The universities themselves exert a direct influence on several aspects of education, especially those concerned with examination standards. However their ability to influence student admissions varies in different countries according to their degree of independence from public control. They enjoy a great deal of independence in the UK (despite their dependence on public funds), possibly less than the private foundations in the US, but more than universities in continental Europe. Most universities however, reserve the right to award degrees and other qualifications.

We do not possess sufficient knowledge of other countries to assess the effect of *changes* in policy which may have influenced the trend in the demand for university places beyond those already discussed in Part I[1]. The sensitivity of demand to policy measures is a subject where the interchange of information on international experience could be most useful and instructive.

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[1] In particular, on entry conditions, on student aid, and on wastage.

FAMILY BACKGROUND

The influence of home background, parents' attitudes, education and socio-economic status on the willingness of children to continue their education and on their attainments has often been stressed. The correspondence between parents' socio-economic status and children's educational progress has been demonstrated in a number of studies.

There is in fact no need to go over the question of the influence of environmental factors on differences in educational attainment, since there is a large literature on this subject[1]. The questions relevant here are, first, how much of the *increase* in the demand for upper secondary education can be attributed to parental influence and secondly, how far changing parental influences are due to a change in attitudes of parents with given social status and education, and how far to the changed social composition of the population — itself the effect of social mobility.

Here the sources are meagre. Changes in attitude are perhaps in any case too elusive to stand up to rigorous investigation but changes in the educational and socio-economic composition of the population are potentially capable of measurement.

To collect the evidence needed for a comprehensive international comparison is however beyond the scope of this paper, and what is attempted here is a summary of the data that were available to us placed in a comparative framework wherever this seems possible or meaningful.

PARENTS' EDUCATION

In a multivariate analysis undertaken by the Michigan Institute for Social Research [14], parents' education was found to be the main determinant of the expected and realised educational progress of children. In England and Wales also, educational differences of the adult population in local areas were found to be the major variable influencing the percentage of children in upper secondary schools and in higher education[2].

In the Michigan study a step-up relationship was found to exist between the education of " spending unit heads " and that of their father. If this relationship continues to hold for their children, it will lead to college entrance for one-half of the next generation ; 62 per cent of the parents questioned, in fact, hoped that their boys would get a college degree.

The effect of parents' education on the future demand for places should be amenable to measurement and prediction in most countries. The US Bureau of Health, Education and Welfare already uses " Fathers' Educational Attainment " index[3] as one of its projections of college enrolment.

If parents expect their children to enjoy at least as good an education as they have enjoyed and if a substantial proportion of them look one stage ahead, and a smaller proportion two or more stages ahead, then parental pressures alone would keep the demand for places proportionate to the increase in enrolment after a 20-25 year time lag (with certain assumptions on fertility).

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1. Notable here is the OECD volume on ' Ability and Education Opportunity ' [17]. Robbins Appendix One [40] on ' Family background ', studies in the US (e.g. D. Wolfle) and Sweden (T. Husén).
2. Robbins, Appendix One [40], p. 67.
3. Selma Mushkin (16), p. 13.

But in addition, the present and past social composition of upper secondary and higher education will determine the magnitude of the accelerating factor which may be termed the " social mobility multiplier ".

For example, if four-fifths of university students are " first generation " students then to maintain a constant social composition would imply a higher rate of increase in the demand for places than that obtaining in a similar situation where only two-fifths of the students are " first generation " students.

This is of course a gross simplification and there are many constraints. Firstly, there are the constraints imposed by the size of the non-university group and by the fact those parents who " did not go to university " are not a homogeneous group and are likely to contain many gradations of educational experience (in its widest sense). Secondly, there are the intellectual limitations on the numbers likely to benefit from higher education. Thirdly, there is a limit to the influence of parental aspirations on the actual progress of adolescents. There is also a limit to the number of higher qualified which a given society may wish to train and to use.

What is to be expected is that the proportion of second generation graduates will increase ; that the increased number of graduate parents will ensure a minimum level of demand for places which will be correspondingly higher than the present level. Also that this minimum level is less sensitive to policy and financial measures than the demand from non-graduate parents.

Table 16, taken from the Robbins Report, shows the growth in the number of men and women, with higher qualifications. This suggests that the growth rate of this minimum level of demand due to changes in the educational level of the population will lie above four per cent per annum.

GREAT BRITAIN

TABLE 16. INCREASES IN THE STOCK OF MEN AND WOMEN WITH HIGHER QUALIFICATIONS

ANNUAL PERCENTAGE INCREASES[1]

Per cent.

	1938-51		1951-61		1961-71	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
Educated in universities :						
In total population	3.4	3.8	3.5	2.9	4.3	3.5
In working population ..	3.1	2.8	3.8	1.6	3.9	2.1
Educated in teacher training :						
In total population	—	—	2.3	3.4	3.1	3.5
In working population ...	—	—	2.1	2.5	4.1	1.2

1. At compound interest rates.
Source : Robbins, Appendix Four, Pt. V.

FATHERS' OCCUPATION

CONCEPTUAL LIMITATIONS

The socio-economic status of the father is the most commonly used criterion to assess a child's family background. It is also an extremely crude measure of the wide range of home influences which affect children from an early age. Moreover the actual classification of occupations used to indicate " social class " is so broad as to make it a blunt instrument of analysis even if one postulates a simple relationship between father's occupation and his attitude towards his children's education.

In the sample of 21-year olds undertaken by the Robbins Committee, 72 per cent replied that their parents had expressed strong positive views on the benefits of education, 94 per cent of the mothers (and 92 per cent of fathers) had shown at least some interest in their children's school work, and 54 per cent had shown " a lot " of interest. Even if one assumed that all " non-manual " parents believe in the benefits of education this would still leave a majority of " manual " parents holding the same belief. This illustrates the risk of single cause explanations. Only a multivariate analysis can show the separate effects of the many causes which determine a child's educational success.

STATISTICAL LIMITATIONS

Father's occupation, despite its limitations, is the most accessible information which can be obtained from school leavers and university entrants without embarking on a special survey[1]. It has also the advantage that the socio-economic composition of students can be related to that of the total working population. Although relatively simple conceptually, it is often doubtful whether, in fact, any two surveys of students are comparable in terms of coverage or occupational classification. This applies to different surveys in one country and even more to surveys undertaken in different countries. For example, the sample of 1954-55 school leavers in the Crowter Report [86] and the Ministry of Education Survey [85a] of 1961/62 include different occupational groups even though the nomenclature was similar (see Robbins *Report*, p. 320 [40] for details).

To ensure comparability between countries a great deal of research is needed to discover the occupations included in each socio-economic status group. And before any firm conclusions can be drawn on social participation, students' home background must be related to the social composition of the population, in each country. This is a task outside the scope of this paper.

CROSS-SECTIONAL COMPARISON

The reason for presenting the cross-sectional comparison in a study mainly concerned with changes over time is that it illuminates some of the causes involved in growth and stagnation. There is a connection between the degree of social selectivity and the demand for places. University expansion is partly the result of pressure of demand from social groups who previously supplied relatively few applicants ; the effect of expansion in turn, whatever its cause, leads to greater social participation (at least in the short run).

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[1] In England and Wales, however, no such regular information was collected on a national scale.

UNIVERSITY STUDENTS

The social background of university students shows the great preponderance of children with fathers in white-collar occupations. The proportion of students from working class homes appears to be significantly higher in Great Britain than in the other European countries. Moreover this average conceals great differences between universities and faculties : the percentage of undergraduates with fathers in manual occupations was 9 per cent in Cambridge compared with 40 per cent in Wales ; 15 per cent in medical faculties compared with 30 per cent in science and technology. In the other sectors of higher education the proportion of students from working class homes was higher : 40 per cent of those in teacher training ; 38 per cent in full-time and 55 per cent in part-time further education. However in a comparison with France one has to remember that self-employed and farmers are a relatively small part of the occupied population in Great Britain. Also the proportion of students in France whose fathers' occupation was not known was relatively high (9 per cent) and may include some with fathers in manual occupations[1].

TABLE 17. FATHER'S OCCUPATION OF UNIVERSITY STUDENTS

Per cent.

FATHER'S OCCUPATION	FRANCE 1963	GERMANY 1962-63		GT. BRITAIN 1961-62		SWEDEN FRESHMEN 1960-61	NETHERLANDS FRESHMEN 1958-59
		M.	F.	UNDERGRADS.	POSTGRADS.		
Non-manual	56	89	93	71	61	73	73
Manual	8	6	3	25	34	14	5
Artisans, etc[1]	13	..	..	..	..	..	15
Farmers, etc.[2]	6	3	3	..	..	9	5
Total classified	83	98	97	96	95	96	98
Unclassified and occupation unknown	17	2	1	4	6	4	2
	100	100	100	100	100	100	100

1. Includes small shopkeepers in France.
2. Includes other agricultural occupations in Sweden.

Source : France : Ministère de l'Éducation nationale, *Informations Statistiques*, avril 1965.
Germany : G. Kath [9].
Gt. Britain : Robbins, Appendix Two [B] p. 59.
Netherlands : R. Poignant [6].
Sweden : O. Ruin [24].

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[1] The occupational distribution of the male population which would correspond to the classification in Table 17 was not available to us for all the countries included here. But see C.A. Anderson " Access to Higher Education and Economic Development " in *Education, Economy and Society* edited by Halsey, Floud & Anderson, 1961. Also Joseph Ben-David " Professions in the Class system of present-day societies " *Current Sociology*, Vol. XII, No. 3, 1963-64. Both note the relatively high percentage of working class children in British universities associated with relatively low participation rates.

It has already been mentioned that one explanation of the relatively higher participation of working class students in Great Britain is the greater financial help students receive. The other reason may be that the increasingly competitive nature of university entrance in this case operates against those of only average ability who in other countries may find their way to the university because they can afford to pay. In Sweden also, the relatively high participation of working class children must have been partly due to increased financial support. Unfortunately we have not been able to assemble comparative statistics for the US or Belgium. The percentage of working-class children at university is known to be higher in the US than in Britain (around 30 per cent), and in view of the generally high percentage of the population going to college this is not surprising.

For a further explanation of the social composition of university students, one has to go back to the schools from which universities recruit their entrants.

SELECTIVE SCHOOLS

In Table 18 the comparison of the social composition of pupils at selective schools must be approached with caution. The figures come from a variety of sources. Some percentages relate to school leavers irrespective of

TABLE 18. FATHERS' OCCUPATION OF PUPILS AT SELECTIVE SCHOOLS

Per cent.

FATHERS' OCCUPATION	ENGLAND & WALES LEAVERS 1960/1 GRANT-AIDED GRAMMAR SCHOOLS	FRANCE LYCÉES (ENROLMENTS)	GERMANY		NETHERLANDS ENTRANTS[2] 1960		SWEDEN ENTRANTS 1960
			ENTRANTS 1954	QUALIFIED LEAVERS 1963	F.	M.	
Non-manual	34	67	76	79	75	82	64
Manual	52	17	16	4	23	16	23
Agricultural occupations[1]	..	8	..	..	..	..	8
Total classified	86	92	92	83	98	98	95
No occupation, miscel. occupation unknown, etc.	14	9	8	17	2	2	5
Total	100	100	100	100	100	100	100

1. Agricultural occupations are mainly farmers and agricultural labourers. Not available separately, except for France and Sweden.

2. Since the presentation of this paper, Mr. Ruiter has done a detailed comparison of occupations included in the two countries which would reduce the difference between England and Wales and the Netherlands. However, reclassification always involves a number of arbitrary decisions.

Sources : England and Wales : Ministry of Education Statistics of Education, 1961 Supplement [35*a*].
France : R. Poignant [22]. The percentage relates to classical and modern lycées only.
Netherlands : R. Ruiter [25].
Germany : Die Hohere Schule, 1963, based on a survey of a Ruhr town [quoted by V. Mutius], [15].
Sweden : O. Ruin [24].

attainment (England and Wales)[1], some to entrants (Germany, Netherlands and Sweden) some to enrolment (France). The Swedish figures represent students at the gymnasia which are more comparable in age range and standard with the upper levels of selective schools elsewhere.

On the surface it looks as though selective schools in England and Wales are far less socially selective than the lycée or gymnasium in other European countries. One reason for this is partly that in England and Wales selection has so far been based on standardized objective tests normally evaluated outside the schools, rather than on teachers' assessment or " advice " as in Germany or the Netherlands[2]. The other reason is that the upper middle classes to some extent by-pass the selective system altogether by sending their children to expensive fee-paying schools. This can be illustrated from Table 19.

TABLE 19. FATHERS' OCCUPATION OF SCHOOL-LEAVERS[1] OF GRANT-AIDED, SELECTIVE AND FEE-PAYING SCHOOLS : ENGLAND AND WALES 1960-61

Per cent.

	MAINTAINED AND DIRECT GRANT GRAMMAR SCHOOLS	INDEPENDENT RECOGNIZED SCHOOLS
Professional and managerial	24	74
Clerical	12	7
Skilled manual	38	10
Semi and unskilled manual	13	1
Occupation unknown	13	8
Total	100	100
000's	121	28

1. School-leavers at all ages ranging from 15-19.

Source : Ministry of Education Statistics, 1961 Supplement [35a].

CHANGES IN SOCIO-ECONOMIC COMPOSITION

There is little conclusive evidence on whether the composition of the student body is more democratic now than it was in the past. Nor is it possible to say with any certainty from available statistics whether the relative participation from working-class children has risen. This would require knowledge of the changes in the composition of the male working population with children of the relevant age group[3].

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[1] The relationship between drop-out and family background was discussed on page 172.

[2] This does not imply that children from culturally impoverished homes are not at a disadvantage. In addition to this handicap there are the differences in the quality of teaching provided in different primary schools within the state system, and local differences in the percentage of grammar school places available. But compared with subjective assessment, impersonal tests are more equitable.

[3] Given a reduction in the proportion of manual workers in the population, even a constant composition of the student population means in fact a rising participation rate of working class children.

CHANGES IN UNIVERSITY STUDENTS' SOCIO-ECONOMIC ORIGIN

In Germany and in France, statistics of the occupation of the father of university students have been collected for some time[1].

French statistics indicate that the share of industrial workers in the student population, although still very low, has increased from 1.9 per cent in 1950 to 3.4 per cent in 1960. That of the professional and managerial class declined from 24 per cent in 1953 to 18 per cent in 1960, whereas the share of officials (fonctionnaires) and of farmers' children has remained constant.

The children of fathers in lower clerical occupations (employees) increased their share from 12 per cent in 1950 to 19 per cent in 1960.

In **Germany** Mr. Kath has subdivided each occupational group of fathers into those with and without university training. Those men students with university educated fathers increased from 26 per cent in 1950 to 29 per cent in 1959. The share of working-class sons increased from 3.7 per cent in 1950 to 6.0 per cent in 1962/63 and that of the daughters from 1.1 per cent in 1950 to 2.8 per cent in 1962/63, that of farmers' sons declined from 5.1 per cent in 1950 to 3.6 per cent in 1962/63. The only substantial increase in relative shares was (as in France) that of children with fathers in clerical occupations (Angestellte) from 20 per cent to 30 per cent for boys and 17 per cent to 27 per cent for girls between 1950 and 1962/63.

In **Sweden**[2] the percentage of freshmen from manual workers' homes increased from 8 per cent in 1947 to 12 per cent in 1953 and 14 per cent in 1960, the largest relative increase amongst the countries discussed here.

In **Great Britain** there was no regular co-ordinated collection of information on fathers' occupation of university students until the setting up of the University Clearing House. UCCA collects this information now from applicants for university places but found that self-description was too unreliable to be worthy of analysis and publication. Evidence from two sample surveys suggests that there has been little change in the share of manual workers' sons between 1955 and 1961 but some improvement in the position of working-class daughters. The following table is reproduced from Robbins Appendix Two (B).

GREAT BRITAIN

TABLE 20. THE PERCENTAGE OF MANUAL WORKERS' CHILDREN AT UNIVERSITY

Per cent.

	MEN	WOMEN	MEN & WOMEN
1955 (entrants)	27	19	25
1961 (all students)	26	23	25

1955 : Kelsall, R.K. [10].
1961 : U.G. Survey, Robbins [40] Two [B].

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[1] See *Informations Statistiques du Ministère de l'Education Nationale*, [29] and G. Kath [9].

[2] O. Ruin [24].

To sum up : in countries with very low proportions of working-class children (e.g. Germany, France) there have been relative increases ; in Sweden this increase was substantial. There is no evidence of any increase in Great Britain, but the share of manual workers' children is still far higher than in the continental European countries shown here.

Financial aid has played its part in encouraging boys and girls to embark on higher education who would previously have gone into employment (this was discussed on page 165). But unless aid is accompanied by a change in the social set-up of the schools preparing pupils for university entrance the number able to take advantage of increased scholarships remains limited.

SOCIAL CHANGES IN SELECTIVE SCHOOLS

There is little evidence to show any changes in social composition — what little there is has been summarized below :

From Mr. Ruiter's paper [25] changes in the grammar school participation of sons and daughters of manual workers in the **Netherlands** were as follows :

NETHERLANDS

TABLE 21. AVERAGE ANNUAL INCREASE OF GRAMMAR-SCHOOL ENTRANTS BY SOCIAL CLASS, 1949-1960

Per cent.

	BOYS	GIRLS
Social class :		
Higher	2.8	3.2
Middle	4.4	6.8
Lower	3.8	6.0
Total	4.2	5.2

Source : Ruiter, [25], p. 23.
NOTE. " Higher " and " Middle " are non-manual occupations.

This suggests that the increase of girls from working-class homes was above average, but that of boys below average.

In **Germany** a study of a town in the Ruhr shows an increase from 20 per cent to 38 per cent in the share of manual workers' children amongst grammar school entrants (quoted by V. Mutius [15]). This is not necessarily typical of Germany as a whole.

In **England and Wales** there have been three separate studies of the social background of grammar school children during the past ten years. One refers to entrants in 1946 leaving between 1949 and 1953 [36a]. The second, the Crowther Report [36] relates to grammar and technical school leavers in 1954-55 and the third is by the Ministry of Education relating to a sample of 1960-61 school leavers [35a]. These three surveys are not quite comparable in terms of classification of occupations, or coverage of schools (see p. 186) but they suggest that the share of manual workers' children has remained approximately at 50 per cent or over 60 per cent if the unclassified category is excluded.

Alan Little and John Westergaard [11b] have made a recent attempt to assess the trend in educational opportunity of successive generations since 1910. When grammar schools and independent schools are taken together they found that although participation has increased at all social levels the differences in participation remained almost the same.

CHANGES IN THE SOCIO-ECONOMIC COMPOSITION OF THE POPULATION

As mentioned before, any meaningful discussion on changes in the social composition of students must be related to changes in the population. This is one of the tasks essential to time comparisons and to international comparisons but outside the scope of this paper[1]. We were, however, fortunate in obtaining Mr. Routh's permission to reproduce some of his work on long-term occupational changes of G.B. and a comparison with the US. The following section relates to Great Britain and the United States. Given time and the sources it should be possible to compare the growth in certain occupations most relevant to university entry in different countries.

GREAT BRITAIN

Our knowledge of the social status composition of the working population is usually confined to population censuses, and here the division by social class is too broad to show much impact of new entrants or of social mobility on the labour force. A comparison of parental age groups (e.g. 35-45) by occupation may be more rewarding. Unfortunately our latest population census taken in 1961 in Great Britain was not yet published at the time of working. The latest available census figures relate to 1951.

Below is a table taken from Guy Routh's book (*Occupational Class and Occupational Pay in Great Britain, 1905-1960,* CUP, 1966) which is subdivided into somewhat narrower categories. The 1931 to 1951 census change was chosen as relevant to the question of parental demand. The 1961 change was estimated by the present author. This table reflects very clearly the different growth rates of " white collar " and " blue collar " occupations, although the total impact on the labour force is less striking. Mr. Routh's estimate for 1959 shows that this trend has been maintained.

A COMPARISON WITH THE US

Comparisons of occupational structure with other countries are complicated by problems of classification. Any comparison of Great Britain with other countries must take account of the fact that agricultural occupations in Great Britain represent a very small proportion of the total.

Below is Mr. Routh's comparison of the US and GB occupational class distribution.

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[1] For a long-term comparison see Little (11b) : for an international comparison of the part played by higher education in social mobility see Joseph Ben-David ; ' Professions in the Class System of present-day societies, ' *Current Sociology,* Vol. XII, No. 3, 1963-64.

GREAT BRITAIN

TABLE 22. OCCUPATIONAL STRUCTURE AND CHANGE

MALES

Per cent.

OCCUPATIONAL CLASS		PERCENTAGE DISTRIBUTION			AVERAGE ANNUAL % GROWTH	
		1931	1951	1961[1]	1931-51	1951-61[1,2]
1A.	Higher Professional	1.50	2.56	3.5	3.0	4.5
1B.	Lower Professional	2.03	3.16	4.5	2.5	4.0
2A.	Employers and Proprietors	7.65	5.74	5.8	—1.2	0.4
2B.	Managers and Administrators	4.54	6.78	7.7	2.3	3.0
3.	Clerical Workers	5.53	6.35	7.0	1.0	1.0
4.	Foremen, Inspectors and Supervisors	2.00	3.28	3.7	2.8	1.1
5.	Skilled Workers	29.96	30.36	30.7	0.3	0.5
6.	Semi-skilled Workers	28.85	27.92	24.7	0.1	—0.6
7.	Unskilled Workers	17.92	13.84	12.4	—1.0	—0.3
	All Occupations	100.00	100.00	100.00	0.3	0.6
	000's	14,761	15,584	14,649		

1. England and Wales only; owing to the complete re-classification of occupations between 1951 and 1961, the comparison should be regarded as approximate.
2. Excluding Armed Forces.

Source : G. Routh [23] and Census England & Wales, Occupation tables.

GREAT BRITAIN AND UNITED STATES

TABLE 23. A COMPARISON OF CHANGES IN OCCUPATIONAL COMPOSITION 1930/31 TO 1950/51

Per cent.

OCCUPATIONAL GROUPS		U.S. 1930	U.S. 1950	INCREASE OR DECREASE IN RELATIVE SHARES
		G.B. 1931	G.B. 1951	
1. Professional & Semi-professional	U.S.	6.1	7.5	+ 1.4
	G.B.	4.4	6.1	+ 1.7
2. Proprietors, Managers & farmers	U.S.	19.9	16.3	— 3.6
	G.B.	10.6	10.6	—
3. Clerical Occupations	U.S.	10.0	13.3	+ 3.3
	G.B.	9.2	12.7	+ 3.5
4. Sales	U.S.	6.3	6.9	+ 0.6
	G.B.	6.1	5.4	— 0.7
5. Skilled Workers & foremen	U.S.	12.9	13.8	+ 0.9
	G.B.	15.0	16.8	+ 1.8
6. Semi-skilled, unskilled, farm labourers and servant class	U.S.	44.8	42.2	— 2.6
	G.B.	54.7	48.4	— 6.3
		100.0	100.0	0.0

Source : Guy Routh, *op. cit.* [23].

The trend towards " white collar " occupations is unmistakable, although in the US much of this increase was at the expense of agricultural occupations.

SWEDEN

In Sweden there appears to have been the same trend. Mr. Wallberg [27] shows that the trend in white collar occupations proved one of the significant variables in his time series analysis of entry to the gymnasium. An analysis for Britain and the United States may well show similar results and attribute a significant part of the increased demand for higher education to a changed socio-economic structure.

INCOME AND THE CONSUMPTION DEMAND FOR EDUCATION

Rising real incomes, increased standards of living and growing prosperity are frequently cited as a major cause of increased demand for more and better educational facilities. There have been a number of studies on this theme notably the Washington Conference Volumes of the OECD [17].

For example the high per capita income in the US means that high expenditure on education imposes less strain on national resources. In fact public expenditure on higher education as per cent of GNP is only slightly above that of the UK despite the differences in enrolment percentages ; but high personal incomes make it possible for more parents to finance their children's higher education and the contribution from private sources is considerably higher than in the UK (almost half of total expenditure compared with one tenth). The degree of mechanization and automation in the US is a factor which permits a higher school leaving age and the withdrawal of juvenile labour involved without strain on the labour force. In fact a lower leaving age may well become an embarrassment by increasing unemployment. It is against this background of differences in income level and labour force participation that changes in economic growth and educational growth should be viewed.

However there is some cause for doubt as to whether there is such a simple relationship between rising incomes and rising educational expectations. Two may be mentioned here. The first concerns the efficiency of GNP as a measure of prosperity in international comparisons and the second, more important, questions the relative importance of prosperity in the quest for education.

To take the question of GNP first. It seems less significant as an indicator of prosperity than the growth of disposable personal incomes, since it includes varying proportions of public expenditure, corporate savings and stock changes. However a look at actual trends from OECD tables suggests that growth of consumers expenditure at any rate runs more or less parallel to GNP[1].

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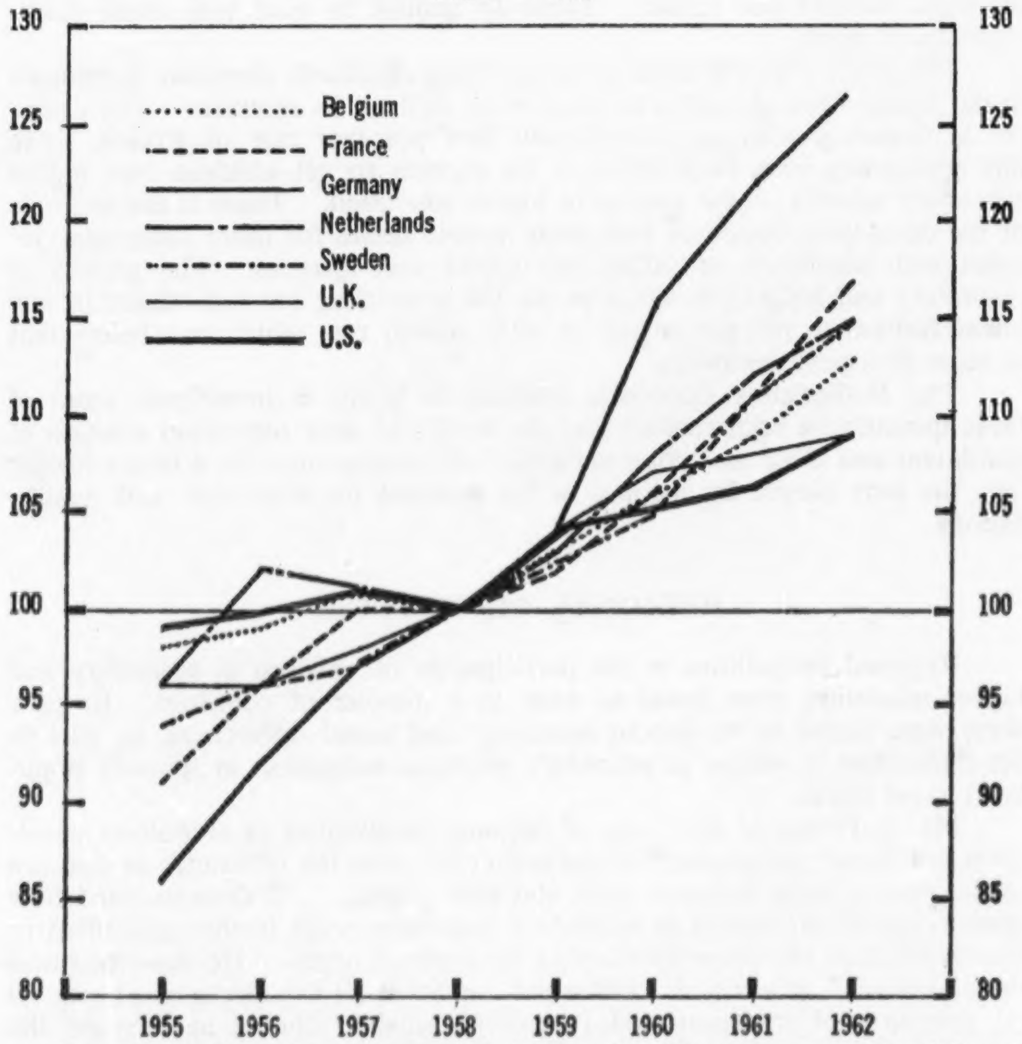
[1] This may be due to the way these two aggregates are derived in some countries.

Chart 10. VOLUME INDICES OF PER CAPITA PRIVATE CONSUMPTION
1958 = 100



Source : Organisation for Economic Cooperation and Development Statistics of National Account, Supplement, April, 1964.

TABLE 24. PER CAPITA PRIVATE CONSUMPTION AVERAGE ANNUAL PERCENTAGE INCREASES[1]

Per cent.

COUNTRY	1955-58	1958-62	1955-62
Belgium	0.7	3.1	2.1
France	3.1	4.0	3.7
Germany (F.R.)	5.1	6.2	5.7
Netherlands	1.4	3.6	2.6
Sweden	2.1	3.6	2.9
U.K.	1.4	2.2	1.8
U.S.	0.4	2.2	1.4

[1] At compound interest rates.

Source : OECD, *Statistics of National Accounts*, April 1964 supplement, page 8.

Relatively high growth of per capita income can be due to stationary or falling population or increased labour force participation as much as to increased income per earner. Table 24 should be read with these qualifications in mind.

The relative part played by rising living standards (however measured) in the demand for education is much more difficult to ascertain. For example in Germany with an exceptionally fast post-war rate of growth, there has apparently been little agitation by parents to get children into higher secondary schools — the avenue to higher education. There is the example of the developing countries with their intense desire for more education, yet some with stationary or falling per capita real incomes. The growth of secondary and higher education in the US is startling but not related in any linear fashion to her per capita or total growth rate which was below that of most European countries.

The Netherlands Economic Institute is going to investigate some of these quantitative relationships and the results of their regression analysis of enrolment and GNP and other variables will perhaps provide a better insight into the part played by income in the demand for education and qualifications.

REGIONAL DIFFERENCES

Regional inequalities in the participation of children in secondary and higher education were found to exist in a number of countries. In part, these were found to be due to economic and social differences, in part to the difficulties of access to secondary grammar education in sparsely populated rural areas.

Mr. J. Ferrez in his study of regional inequalities in secondary enrolment in France[1] has shown that the main cause was the difference in distance to the nearest lycée between rural and urban areas. He demonstrated how these regional differences in secondary enrolment were further magnified in the distribution of university students by regional origin. He described also the educational reforms of 1959 which aimed at [1] the dispersal of schools [2] provision of transport and [3] comprehensive schools to increase the opportunities of rural children. These reforms presumably have shown some effect by now.

Mr. Ruin [24] who dealt with a similar problem in Sweden was able to show that differences in the regional origin of university freshmen had narrowed considerably between 1947 and 1960.

Mr. Ruiter [25] in his EIP paper included an analysis of regional differences in secondary and university enrolment. The large differences between regions in the percentage of 18-year olds entering university were explained foremost by the differences in the number of qualified leavers and to a lesser extent by the distance of qualified leavers to the nearest university. Most students in the Netherlands live at home.

In his analysis of differences in grammar school participation Mr. Ruiter has found that although there are still great local differences here, these differences have decreased over the past 30 years. 20 per cent of the increase in grammar school enrolment can be attributed to this levelling-up process of low enrolment areas.

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[1] Ability and Educational Opportunity [17].

For Germany, Mr. Edding [5] shows a slight narrowing of regional differences of the percentage of 13-year olds at grammar schools but a more definite narrowing of the corresponding percentages of 18-year olds.

In Great Britain, geographical access to universities has become less important since only 20 per cent of students lived at home in 1961/62. In a study by the Robbins Committee it was found that 17 year olds at school were highly correlated with local differences in grammar school provision and with the percentage going on to higher education. Table 25 and Chart II show regional changes in the percentage of 17 year olds enrolled as a percentage of 13 year olds 4 years earlier. The percentages have risen in all areas but there is little sign here of a narrowing of differences. There is some reason to believe that regional differences in grammar school provision are partly historical in origin ; if this is so, then nothing appears to have reversed the ranking position — at least not during recent years. As in other countries differences correspond to some extent to economic differences. It is true the South and South-East are high income regions and the North and North-West include low income areas. On the other hand, Wales is well above the other regions and has maintained its top position even though it includes many low income areas.

ENGLAND AND WALES

Regional change

TABLE 25. 17 YEAR OLD BOYS AND GIRLS REMAINING AT MAINTAINED SCHOOLS AS PERCENTAGE OF 13 YEAR OLDS FOUR YEARS EARLIER

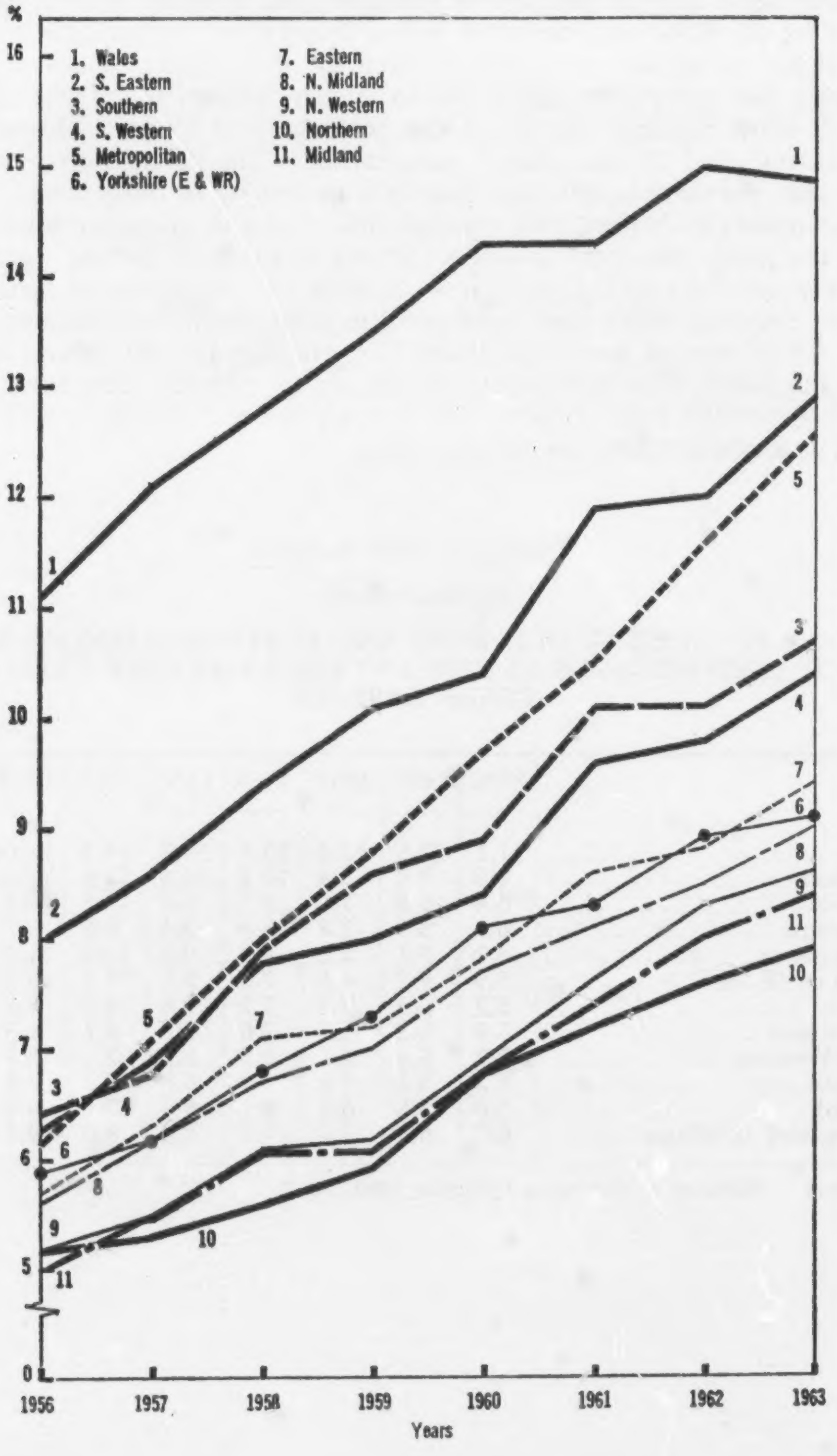
Per cent.

	1956	1957	1958	1959	1960	1961	1962	1963
Wales	11.1	12.1	12.8	13.5	14.3	14.3	15.0	14.9
S.-Eastern	8.0	8.6	9.4	10.1	10.4	11.9	12.0	12.9
Southern	6.4	6.8	7.9	8.6	8.9	10.1	10.1	10.7
S.-Western	6.3	6.9	7.8	8.0	8.4	9.6	9.3	10.4
Metropolitan	6.2	7.1	8.0	8.8	9.7	10.5	11.6	12.6
Yorkshire (E. & W.)	5.9	6.2	6.8	7.3	8.1	8.3	8.9	9.1
Eastern	5.7	6.3	7.1	7.2	7.8	8.6	8.8	9.4
N. Midland	5.6	6.2	6.7	7.0	7.7	8.1	8.5	9.0
North-Western	5.2	5.5	6.1	6.2	6.9	7.6	8.3	8.6
Northern	5.2	5.3	5.6	5.9	6.8	7.2	7.6	7.9
Midland	5.0	5.5	6.1	6.1	6.8	7.4	8.0	8.4
All England & Wales	6.2	6.7	7.3	7.7	8.4	9.0	9.5	10.0

Source : Ministry of Education Statistics, 1963, Pt. 1.

Chart 11. ENGLAND AND WALES REGIONAL COMPARISON

17 YEAR OLDS AT SCHOOL AS % OF 13 YEAR OLDS 4 YEARS EARLIER, ALL MAINTAINED SCHOOLS



Source : See Table 25.

CONCLUSION

The emphasis in this paper has been on a comparison of trends. It was with diffidence and reluctance that direct comparisons of levels or states were broached. The reason for this was not only the technical difficulty of statistical comparisons but the questionable validity of comparing numbers divorced from their historical and institutional context.

It was found that the demand for education has gone up in all the countries examined since the mid-fifties but at different rates of growth. In the first part of the paper the flows within the educational system were traced from graduation to the primary school. It was found that part of the differences in growth was due to the different structures of the system ; and due to selection operating at different transition points with varying degrees of severity. Some of this variability of selection procedure could be ascribed to academic policies, but some of it arose from the lack of provision by public authorities.

The second part of the paper deals with factors outside the educational system relevant to the demand for higher education. It was seen that social forces provided a strong underlying current for the present trend. This is reflected in changes in the occupational and educational distribution of the adult population. The increase in professional and skilled occupations points to a changing social structure ; and the increase of higher educated parents acts itself as accelerator of social demand. This, rather than observable changes in the social class composition of the student body were thought to be responsible for changing demand. However, the social composition of the students itself differs in the countries examined ; this could be attributed in part to the differences in financial aid to students ; and in part to the size of overall participation rates in higher education : very high participation rates as in the US eventually increase relative participation also.

Among economic factors responsible for increased demand is the increase in aggregate real incomes since the mid-fifties and greater security of employment. This has diminished the need for juveniles to contribute to the family income ; at the same time the technological revolution spreading from the US makes their contribution to the labour force less urgent.

But probably the strongest economic influence was the rapidly rising demand for higher-qualified personnel, particularly in science and technology which has resulted in increased opportunities and salaries for graduates[1]. The expectation of higher reward due to higher education has given added impetus and substance to the aspirations of parents and their offspring.

The aspirations find their expression also in political pressures on public authorities to provide more and better educational facilities. Political pressure of a different kind has resulted in the post-sputnik expansion of US Federal expenditure on scientific and technical education, particularly at the post-graduate level. This has had some delayed effect on other countries and a spillover effect on other faculties.

There are then a variety of forces at work, many non-quantitative by nature, others difficult to identify. Yet to improve our predictions and increase the effectiveness of policy measures the separate contribution of those factors which can be identified should be assessed by a multivariate approach.

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[1] See Blaug, Peston & Ziderman : *The Utilization of Educated Manpower in Industry* (to be published). Salary differentials were strikingly higher for university educated staff compared with others, nominally in the same broad occupational category (professional and technical staff).

APPENDIX TABLES

STATISTICAL DATA

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I. Belgium.
II. England and Wales.
III. Scotland.
IV. Great Britain.
V. France.
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IX. United States.
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GENERAL NOTES

1. Years refer to school years or academic years.
2. Non-residents were excluded as far as possible.
3. The numbering of columns refers to equivalent levels of education except where otherwise stated.
4. ... not available here.
5. Figures in brackets are provisional.

TABLE I. BELGIUM

000's.

ACADEMIC YEARS	LYCÉES, PUBLIC & PRIVATE			QUALIFIED LEAVERS		UNIVERSITY ENTRANTS	DEGREES AND DIPLOMAS
	FIRST GRADE		UPPER LEVEL	SCHOOLS ONLY	ALL CERTIFICATES		
	LATIN	MODERN					
	1a	*1b*	*2a*	*3a*	*3b*	4	5
1951/52							3.9
/53			33.8			5.0	3.9
/54			35.7			5.1	4.1
/55	17.2	24.1	37.6			5.4	4.5
/56	19.0	26.3	39.2	9.7	10.1	5.8	4.7
/57	20.5	30.0	39.8	10.4	10.7	6.4	4.8
/58	21.4	32.8	40.8	10.3	10.8	6.6	5.0
/59	25.2	36.3	44.0	10.2	10.7	6.6	5.2
/60	26.9	41.2	48.9	11.1	11.3	6.9	5.5
/61	28.4	43.2	55.5	12.6	13.8	7.4	5.8
/62	70.4		61.9		16.0	8.2	

Sources and notes : Most figures supplied by OECD staff based on *Annuaire Statistique de l'Enseignement.*

Col. 1. 6e at lycées, includes some who repeat the grade.
Col. 2*a*. Formation générale, degré supérieur.
Col. 3*a*. Certificates awarded by schools and " jury d'homologation. "
Col. 3*b*. Includes certificates awarded by central jury.
Col. 4. Students registered for the first time.
Col. 5. All degrees and diplomas : license and doctorate.

Table II. ENGLAND AND WALES

000's.

ACADEMIC YEARS	JANUARY ENROLMENT AT SELECTIVE SCHOOLS				AGE 15 AND OVER ALL SCHOOLS	QUALIFIED LEAVERS	UNIVERSITY ENTRANTS
	AGE 13		AGE 15 AND OVER			ALL SCHOOLS	
	MAINTAINED GRAMMAR	DIRECT GRANT +	MAINTAINED GRAMMAR	DIRECT GRANT +			
	1*a*	1*b*	2*a*	2*b*	2*c*	3	4
1949/50	97.1	12.3	156.5	22.1	290.7		
/51	95.9	12.1	156.9	22.8	295.0		
/52	98.2	12.5	163.7	24.2	307.0	20.6	
/53	97.9	12.2	169.3	25.3	319.8	22.1	16.5
/54	97.2	12.2	174.8	26.4	333.0	23.6	16.5
/55	94.5	11.5	180.7	27.1	345.7	24.5	17.6
/56	104.0	12.8	184.6	27.6	353.4	25.9	18.8
/57	107.2	13.0	187.9	28.0	363.3	28.2	20.0
/58	116.8	14.8	199.3	31.2	400.4	30.1	22.1
/59	105.3	13.3	216.3	33.0	445.2	31.9	22.6
/60	126.0	15.2	239.3	35.8	501.2	35.9	22.2
/61	134.5	16.2	244.4	36.0	504.3	40.9	23.3
/62	123.4	15.3	266.0	37.4	578.5	47.7	25.5
/63	..	16.3	..	41.0	668.1		26.5

Sources and notes : Source for Cols. 1 and 2 : Ministry of Education. *Education in ...* Annual reports and statistics.

Maintained grammar schools receive all their current income from local education authorities. Cols. 1*a* and 2*a* include grammar streams at bilateral schools. In 1963, grammar streams were excluded owing to a change in classification. Direct grant schools receive their current income from central government, local authority scholarships, private fees and endowments. All schools include independent schools whose revenue comes from private fees and endowments.

Col. 3. School leavers with 2 or more A-level passes. From Robbins, Appendix One, Part IV, Table 6, p. 108.

Col. 4. Home initial entrants to universities : Robbins, Appendix One, Annex T, p. 260. They include a few entrants from outside the schools. The first two years based on UGC reports [37].

Table III. SCOTLAND

000's.

ACADEMIC YEARS	5-YEAR COURSES JANUARY ENROLMENT 2*b*	QUALIFIED LEAVERS 3	UNIVERSITY ENTRANTS 4
1951/52	93.3		
/53	94.6		
/54	92.5	3.18	
/55	94.4	3.23	2.6
/56	97.6	3.55	2.8
/57	101.9	3.74	2.9
/58	104.5	3.92	3.2
/59	110.7	4.10	3.3
/60	123.6	4.19	3.2
/61	130.7	4.89	3.4
/62	144.5	5.31	3.8
/63			3.9

Sources and notes :

Col. 2*b*. *U.K. Statistical Abstract*. The Scottish education statistics do not show enrolment at different types of secondary school by age.

Col. 3. School leavers with 3 higher and 2 lower. From Robbins, Appendix One, Part IV, Table 12, p. 115.

Col. 4. Home initial entrants from Scotland : Robbins, Appendix One, Annex T, Table T. 2, p. 262.

Table IV. GREAT BRITAIN

000's.

ACADEMIC YEARS	UNIVERSITY ENTRANTS 4	FIRST DEGREES & DIPLOMAS 5*a*	HIGHER DEGREES 5*b*
1949/50		20.8	
/51		17.6	2.4
/52	20.6	17.9	2.5
/53	19.6	17.1	2.6
/54	19.5	17.0	2.7
/55	20.2	16.8	2.7
/56	21.5	17.1	2.7
/57	23.0	17.4	2.8
/58	25.2	18.2	2.8
/59	25.9	19.5	3.1
/60	25.3	21.2	3.2
/61	26.7	21.8	3.3
/62	29.4	22.2	3.5
/63	30.4		

Sources and Notes :

Col 4. Home initial entrants. Robbins, Appendix One, Annex T, Table T. 3, p. 263, years before 1954/55 from UGC reports, [37].

Col. 5*a*. Home graduates from Universities (calendar years), Robbins, Appendix Four, p. 161.

Col. 5*b*. Masters and Doctors degrees, *Statistical Abstract of the U.K.* This includes higher degrees to overseas students.

Table V. FRANCE

000's.

ACADEMIC YEARS	PUBLIC LYCÉES			PRIVATE SECONDARY 1st GRADE	QUALIFIED LEAVERS	UNIVERSITY ENTRANTS		FIRST DEGREES
	FIRST GRADE	UPPER LEVEL	TOTAL			PUBLIC FACULTIES	ALL HIGHER EDUCATION	
	1a	*2a*	*2b*	*1b*	3	*4a*	*4b*	*5a*
1949/50 ...	58.9			36.7	30.9	23.2	29.7	15.1
/51 ...	63.7		540.6	38.4	31.7	23.6	29.9	15.5
/52 ...	66.0	332.0	555.1	36.9	31.8	23.9	30.5	14.3
/53 ...	69.4	357.1	581.8	38.5	33.2	24.6	31.4	14.4
/54 ...	74.9	371.8	610.7	41.4	34.7	24.8	31.7	14.8
/55 ...	84.5	394.4	651.8	44.9	39.2	25.9	33.1	15.9
/56 ...	90.9	418.5	694.9	47.3	40.1	26.0	34.9	16.1
/57 ...	102.3	444.6	749.5	47.9	48.9	32.7	41.8	17.9
/58 ...	131.5	474.6	832.8	53.7	47.6	39.2	50.1	15.8
/59 ...	144.6	510.6	914.2	59.6	49.0	38.3	48.9	16.5
/60 ...	145.4	569.4	983.0	60.9	59.1	38.6	48.0	21.3
/61 ...	147.9	640.6	1,067.0	62.6	61.1	45.6	58.3	22.5
/62 ...	145.5	716.2	1,159.0	61.4	61.9	(47.3)		
/63 ...	(155.0)			61.9	(66.2)	(56.0)		

Sources and notes :

Col. 1*a and* 1*b*. Alain Girard, OECD/DAS/PD/64.20.

Col. 2*a*. Supplied by OECD staff [see also *Informations Statistiques* du Ministère de l'Education Nationale].

Col. 2*b*. Supplied by R. Poignant [6].

Col. 3. Bureau Universitaire de Statistique, *Etude sur la prévision des effectifs Universitaires*, bacheliers (2e partie), Table II, 1961/62 from *Informations Statistiques*.

Col. 4*a*. As for Col (3) — Public faculties, adjusted for duplication in medicine.

Col. 4*b*. OICD third survey [*op. cit.*] Annex, Table 3 which includes grandes écoles and allows for duplication, used as bench-mark and interpolated by trend in Col. 4*a*.

Col. 5*a*. As for Col. 2*a*.

TABLE VI. GERMANY (FEDERAL REPUBLIC)

000's.

YEARS	GYMNASIUM		QUALIFIED LEAVERS	UNIVERSITY ENTRANTS	DEGREES & DIPLOMAS	
	QUARTA	TOTAL ENROLMENT			STATE EXAMS	DOCTORATES
	1	2	3	4	5	6
1950	119.9	665.8	31.2	25.6		
1951	113.1	704.0	31.0	25.9		
1952	129.2	759.0	26.8	25.3	18.7	8.0
1953	138.1	812.9	24.0	24.6	18.6	7.7
1954	137.9	851.9	31.4	29.1	18.5	7.2
1955	137.8	874.6	31.8	30.1	17.8	6.5
1956	139.2	858.0	39.2	36.6	18.1	6.3
1957	124.4	855.1	42.2	35.9	17.8	6.0
1958	100.0	855.8	45.1	38.5	17.8	5.8
1959	109.2	860.5	50.5	39.8	18.5	5.6
1960	117.1	852.7	54.4	44.6	19.2	5.4
1961	123.3	847.4	56.5	47.2	20.7	5.8
1962	125.1	843.1	57.6	49.2	21.8	5.8

Sources and notes :
Col. (1) - (4). Wissenschaftsrat. *Abiturienten und Studenten Vorschätzung* 1950-1980, 1964.
Col. 1. Quarta is the 7th grade, usually age 13.
Col. 3. Abitur — taken at school.
Col. 4. Excludes technical universities.
Cols. 5-6. Statistical Yearbook of Germany.

TABLE VII. NETHERLANDS

000's.

ACADEMIC YEARS	GRAMMAR SCHOOLS (V.H.M.O.)			UNIVERSITY ENTRANTS	DEGREES & DIPLOMAS		
	ENTRANTS	TOTAL ENROLMENT	QUALIFIED LEAVERS			FIRST	HIGHER
	1	2	3	4	5*a*	5*b*	5*c*
1949/50	15.06	83.32	8.44	4.73	2.71	2.83	0,27
/51	15.88	83.31	8.47	4.44	2.71	2.90	0,28
/52	17.41	83.59	8.15	3.84	2.62	..	..
/53	18.69	86.88	8.05	3.52	2.57	3.27	0.30
/54	20.12	91.98	8.21	3.73	2.35	3.24	0.30
/55	22.02	98.88	8.17	4.37	2.27	3.14	0.36
/56	25.19	108.85	8.50	4.71	2.21	2.94	0.39
/57	27.97	119.75	8.75	5.36	2.15	2.79	0.36
/58	28.76	129.88	9.99	5.66	2.35	2.80	0.36
/59	33.69	143.32	10.03	6.33	2.68	2.70	0.40
/60	37.90	158.63	10.90	6.74	2.89	2.77	0.39
/61	36.77	170.25	12.45	7.20	3.54	2.77	0.43
/62	35.75			7.90	3.81		
/63	35.14				4.25		
/64	36.62						

Sources and notes :
Cols. (1) - (4). By Mr. Ruiter, Netherlands Central Planning Bureau.
Col. 1. Admitted to grade 1 for the first time.
Col. 3. Refers to leavers with certificates which will entitle them to sit for university examinations.
Cols. 5*a*. Kandidaats' degree only by Mr. Ruiter.
5*b and* 5*c*. Netherlands Statistical Yearbook.
5*b*. Cand. fil. and mag.
5*c*. Doctorates.

NOTE. Col 5*b*, refers to final degrees, the doctoraal examen, the masters degree, and the kandidaats examen in theology and engineering. The kandidaats examen in other subjects [Col. 5*a*] although comparable in standard to a bachelors degree is not regarded as a final professional qualification.

Table VIII. SWEDEN

000's.

CALENDAR YEARS	REAL SKOLA LEAVERS	GYMNASIUM		QUALIFIED LEAVERS	UNIVERSITY ENTRANTS	DEGREES & DIPLOMAS	
		ENTRANTS	TOTAL ENROLMENT			FIRST	HIGHER
	1*a*	1*b*	2	3	4	5*a*	5*b*
1950		8.3	20.1	4.5	2.5	1.36	0.31
1951	11.4	8.9	21.3	4.5	2.6	1.41	0.32
1952	13.2	9.4	22.6	4.9	2.7	1.43	0.35
1953	14.2	10.9	25.3	5.1	2.9	1.54	0.32
1954	15.4	11.7	28.2	5.4	3.2	1.65	0.29
1955	16.7	12.4	30.8	6.0	3.4	1.76	0.33
1956	17.8	13.3	33.5	6.6	3.4	1.97	0.35
1957	18.8	15.0	36.8	7.3	4.2	1.96	0.34
1958	20.4	17.0	40.9	7.9	4.8	2.10	0.37
1959	24.2	20.3	47.5	8.5	5.2	2.43	0.39
1960	28.0	22.7	55.4	9.1	6.0	2.57	0.44
1961	32.9	26.5	63.0	10.7	6.7	2.81	0.50
1962	33.5	28.6	69.4	12.7			

Sources and notes :

Col. 1*a*. Supplied by OECD staff (from Statistical Yearbook) leavers with real skola diplomas.

Col. 1*b*. Supplied by Mr. Wallberg, Central Bureau of Statistics. It includes technical and commercial gymnasia.

Cols. (2) - (5). Source as for 1*a*.

Col. 3. Pupils with student exam.

Col. 4. Excludes technical and commercial I.H.E.'s.

Col. 5*a*. Cand. fil. and mag.

Col. 5*b*. Doctorates.

TABLE IX. UNITED STATES

000's.

ACADEMIC YEARS	HIGH SCHOOL GRADUATES	FIRST TIME (FALL ENROLMENT)				EARNED DEGREES		
		JUNIOR COLLEGES	UNIVERSITIES	LIBERAL ARTS COLLEGES	ALL HIGHER EDUCATION	BACHELORS	MASTERS	DOCTORS
	3	*4a*	*4b*	*4c*	*4d*	*5a*	*5b*	*5c*
1949/50 ...	1,200	114	194	156	558	434	58	6.6
/51 ...		107	172	148	517	384	65	7.3
/52 ...	1,197	96	163	135	472	332	64	7.7
/53 ...		111	185	151	537	305	61	8.3
/54 ...	1,276	126	189	164	572	293	57	9.0
/55 ...		130	226	178	631	287	58	8.8
/56 ...	1,415	140	236	196	675	311	59	8.9
/57 ...		163	250	200	723	340	62	8.8
/58 ...	1,506	168	242	205	730	366	66	8.9
/59 ...		175	256	226	781	385	69	9.4
/60 ...	1,864	183	271	243	827	395	74	9.8
/61 ...		215	305	270	930	401	79	10.6
/62 ...	1,930		325	294	1,026	420	85	11.6
/63 ...					1,039	(440)	91	12.8

Sources and notes :

Col. 3. U.S. Dept. of Health, Education and Welfare. *Digest of Educational Statistics*, 1963.

Cols. 4*a-c*. U.S. Dept. of Health, Education and Welfare, Circulars, *Opening* (*Fall*) *enrolment in higher education* (annual). Degree credit courses. Part-time enrolment (about 19 %) is included.

Col. 4*d*. " All higher education " include teachers colleges and other professional schools and 1954 and 1955 were reclassified to fit the 1956 reclassification of institutions. Years after 1953/54 include extension degree credit courses (about 5 % of the total).

Col. 5. *Statistical Abstract of the United States*, annual, Table 185.

TABLE X. POPULATION BY YEAR OF BIRTH AS ON JANUARY 1961 OR NEAREST AVAILABLE YEAR

000's.

YEAR OF BIRTH	BELGIUM *January* 1961	ENGLAND & WALES *January* 1961	FRANCE *January* 1960	NETHERLANDS *January* 1959	SWEDEN *January* 1957	U.S. CENSUS 1960
1930					92	2,335
1931		574			90	2,277
1932		567	639		89	2,165
1933		536	605	152	84	2,187
1934		556	609	155	85	2,075
1935		560	586	155	85	2,166
1936	124	565	582	158	88	2,144
1937	115	568	573	158	89	2,107
1938	119	576	570	166	92	2,159
1939	115	572	570	168	95	2,203
1940	103	558	526	173	93	2,190
1941	93	548	494	169	97	2,276
1942	101	611	544	177	111	2,499
1943	117	637	591	192	122	2,872
1944	121	695	593	199	130	2,839
1945	122	628	603	189	130	2,802
1946	143	767	800	263	129	2,748
1947	140	829	827	253	126	3,515
1948	142	733	831	238	124	3,584
1949	140	692	835	228	118	3,483
1950	139	663	825	221	113	3,487
1951		647	787	219		3,476

Sources and notes :

Population by single years is not available except in Census years. Hence all the above estimates are approximations. They relate to the estimated surviving poulation at a particular point of time.

Comparable data were not available for Germany.

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Part Two

POLICIES LOOKING TOWARD EQUALISATION OF EDUCATIONAL OPPORTUNITY

VII

EDUCATIONAL OPPORTUNITY AND SOCIAL SELECTION IN ENGLAND AND WALES : TRENDS AND POLICY IMPLICATIONS[1]

by

John WESTERGAARD and Alan LITTLE

Educational policy has become a major subject of public debate in England and Wales since the Second World War. Far from resolving conflict, the reforms associated with the Education Act of 1944 provided the starting point of a new, more intensive and sustained series of controversies. The pressures and themes of this debate are reflected in the string of official enquiries undertaken during the past decade. At the same time, the division of labour between these various enquiries has itself testified to those continuing divisions of educational structure and provision which have been a major focus of controversy.

Thus the Crowther Report (Ministry of Education, Central Council for Education, England, 15 to 18, 1959) and its forerunner, *Early Leaving* (idem., 1954), were directed mainly to selective secondary education beyond the minimum school leaving age ; the Newsom Report (idem., *Half our Future,* 1963) to the education of the majority of children in secondary " modern " schools : the Robbins Report (Committee on Higher Education, *Higher Education,* 1963) to the advanced education of a small, even though growing, minority in universities, technical colleges and training colleges. Another committee is due to report in 1966 on the age of transfer from primary to secondary education in the public sector ; and a Commission was established early in 1966 to advise on means of " integrating " major schools of the private sector with the publicly maintained schools. Between them, the reports published so far have provided a mass of information about the workings of the educational apparatus. The three first mentioned were sponsored by the same official body. Yet none of these governmental enquiries has been designed to review educational provision as a whole.

Public debate has centred precisely on the divisions within the structure of English education — on inequalities of provision and opportunity ; on the contrasts between promise and performance in post-war educational policies. It is these contrasts, too, which form a large part of the background to the current demands for, and official moves towards, some kind of unification of public secondary education in " comprehensive " schools.

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[1] This is a revised version of an earlier paper by the same authors : " The trend of class differentials in educational opportunity in England and Wales ", *British Journal of Sociology,* XV (4), December 1964. We are grateful to the editors of the *B.J.S.* for permission to reprint material common to both papers.

The 1944 Act provided for the establishment of secondary education as a stage in the education of all children, not a style of education reserved for the elect ; the abolition of all remaining fees in publicly maintained schools ; the raising of the minimum school leaving age to 15 ; and the administrative unification of primary and secondary education in the public sector. In so far as different types of secondary education were provided, these were to enjoy " parity of esteem ". Access to them, moreover, was to depend on aptitude and parental preference, not on the accidents of social origin and financial capacity. In the event, different types of secondary education were provided by most authorities. The demand for " parity of esteem " could not be reconciled with the realities of the educational and social structure : with the continuing advantages of money and staff enjoyed by the grammar schools ; above all, with the fact that the grammar schools equip their children with the means of access, either directly or through higher education, to the middle and upper levels of the adult occupational hierarchy. For all improvements of facilities, staff and syllabi, the post 1944 secondary " modern " schools supply the labour for the mass of ordinary and low-paid, and for males predominantly manual occupations ; they have therefore continued to play much the same kind of social role as the pre-1944 " senior elementary " schools[1].

Structural differentiation was thus built into the post-war educational system. The independent schools were left virtually intact by the changes associated with the 1944 Act. And the different channels of public secondary education were directed to different socio-economic levels of the world of work after school. Nevertheless selection for these different channels was intended, in principle, to be blind to differences of social background among the children ; to take account only of scholastic ability and hence, by inference, of prospective occupational aptitudes. The forward link between education and destination in adult life was reinforced ; the traditional backward link between education and social origin was to be cut — in intention, and with respect to the public (but not the private sector of education).

Not surprisingly, much of the debate has turned on the question of how far this intention has been realised ; how far " equal opportunity " has been achieved for children of " equal merit ", irrespective of their class of origin. In turn, preoccupation with this question has reflected a variety of concerns : a concern with the efficient utilisation of human resources of talent and skill ; a concern with " fair shares ", with the equitable distribution of those educational services which are both scarce and " profitable " in adult life ;

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[1] For general analyses of the 1944 reforms and their historical and social background, see especially O. Banks, *Parity and Prestige in English Secondary Education*, London, 1955 ; and D.V. Glass, " Education and Social Change in Modern England ", in M. Ginsberg (ed.) *Law and Opinion in England in the Twentieth Century*, London, 1959 (reprinted in A.H. Halsey et al., eds., *Education, Economy and Society*, New York, 1961). In our summary characterisation of the divisions within the public sector of secondary education, we have ignored the small number of ' technical ' schools, intermediate between grammar and modern schools. We have also ignored ' comprehensive ' schools, which were too few to be taken into account during the period to which our analysis relates, and the current plans for which take such a diversity of forms that no firm predictions about their future character and role can as yet be made.

and a more general concern with the consequences of educational selection for the overall patterns and trends of social mobility in the society at large. The latter two kinds of concern, closely linked as they are, are accentuated by recognition of the increasing importance of formal education as a prerequisite of occupational achievement, and therefore as an " avenue " of social mobility.

Much information is, of course, available on class differences in access to education in post-war Britain. But the evidence from different sources has not yet been brought together to provide an overall picture of the operation of social selection in education, from school to university ; and at the same time to allow a comparison with pre-war years[1]. It is the purpose of this paper to do that, and only that. No new data are reported. The calculations are based entirely on published information. And their scope and accuracy reflect not only the limitations inherent in the original data, but also those which arise from the attempt to use diverse data in combination. Classifications in the source material do not always fully coincide ; assumptions have had to be made on certain points where direct information is incomplete ; and the analysis shows only selection for education of a grammar school type and in universities, since comparable evidence is not available on recruitment, for instance, to technical schools, independent schools not recognized by the Ministry of Education as efficient, and institutions of further and higher education other than universities[2].

Educational opportunity in the 1950's

Three national surveys provide the basis for a composite picture of social selection in education during the 1950's : the report on Early Leaving (1954) ; the Crowther Report (1959-60) ; and R.K. Kelsall's Report on an Enquiry into Applications for Admission to Universities (1957). Each contains information on the educational experience and social backgrounds of roughly the same generation : children born in the late 1930's, who entered secondary education around 1950 and reached university entrance age in the middle to late 1950's. Moreover, the social class classifications used in the three reports are identical or very similar.

Table I is based on these sources, and relates to England and Wales : Scotland is excluded. The figures of boys' secondary schooling derive from the Crowther Report's sample analysis of national service recruits ; the figure of girls' secondary schooling from those for the boys, adjusted to

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[1] An earlier attempt to compare class differentials in educational opportunity before and after World War II was included in J. Floud ' Social Class Factors in Educational Achievement ', Chapter 4, of A.H. Halsey, ed. *Ability and Educational Opportunity*, Paris, 1961 (p. 98). While using some of the same sources, however, that analysis was less detailed and reliable on a number of points, and also covered a shorter period, than the present one. The Robbins Report, *Higher Education*, London, 1963 (Appendix I, Cmnd. 2154-I, pp. 52-4) uses some of the same pre-war data as we for a brief comparison of access to universities then and now, but does not deal with pre-war access to secondary education. Within these limitations, the general conclusions from both analyses tally with ours.

[2] At most some 10 per cent of the 17-year-old children still at school in the late 1950's were in schools not covered by the data. The proportion of the ' university age group ' receiving full-time higher education outside universities was about 4 per cent : class differentials in access to such education were in the same direction, though not quite so sharp, as those in access to university education. (See the Robbins Report, *op. cit.*, Appendix I, pp. 39-42 ; and the present article, *infra.*)

TABLE 1. PROPORTIONS OBTAINING EDUCATION OF A GRAMMAR SCHOOL TYPE AND IN UNIVERSITIES, AMONG CHILDREN OF DIFFERENT CLASSES BORN IN THE LATE 1930'S

SEX AND FATHER'S OCCUPATION	PERCENT IN GRAMMAR SCHOOLS AND EQUIVALENT AT AGES 11-13			PERCENT STILL IN GRAMMAR SCHOOLS AND EQUIVALENT AT AGE 17			PERCENTAGE ENTERING UNIVERSITIES
	IN MAINTAINED AND DIRECT GRANT SCHOOLS	IN INDEPENDENT EFFICIENT SCHOOLS	TOTAL BOTH TYPES	IN MAINTAINED AND DIRECT GRANT SCHOOLS	IN INDEPENDENT EFFICIENT SCHOOLS	TOTAL BOTH TYPES	
BOYS :							
Professional and managerial	40	22	62	24	19	43	16 ½
Other non-manual	30	4	34	13	3	16	
Skilled manual	17	—	17	5	—	5	2 ½
Semi-skilled	12	—	12	3	—	3	1 ½
Unskilled	7	—	7	1 ½	—	1 ½	½
All boys	20	3 ½	23 ½	8	3	11	5 ½
GIRLS :							
Professional and managerial	42	20	62	25	14	39	8
Other non-manual	31	3	34	14	1 ½	15	
Skilled manual	17	—	17	5	—	5	1
Semi-skilled	12	—	12	3	—	3	½
Unskilled	7	—	7	1	—	1	—
All girls	20	3	23	8	2	10	2 ½
BOYS AND GIRLS :							
Professional and managerial	41	21	62	24 ½	17	41 ½	12
Other non-manual	30 ½	3 ½	34	13 ½	2	16	
Skilled manual	17	—	17	5	—	5	1 ½
Semi-skilled	12	—	12	3	—	3	1
Unskilled	7	—	7	1 ½	—	1 ½	½
All children	20	3	23	8	2 ½	10 ½	4

NOTE. Percentages have been rounded to the nearest half digit. — = less than 0.3 per cent. For sources, see text and footnote 6.

allow for the slight sex differences in educational experience at these stages indicated by the Early Leaving Report ; and the university entrance figures from data in the Kelsall report showing the social class composition of 1955-56 undergraduate entrants. It is assumed, however, that 4 per cent of the age group entered universities. In fact, this proportion was not achieved until 1958, the mid-1950's figure being nearer 3½ per cent. Chances of university entrance are thus slightly overstated[1].

The table confirms, first, that at each successive stage of education, progressively smaller numbers of children survive to enter the next stage. One in four of this generation was at secondary grammar school at 13 ; one in ten was still at school at 17 ; while only one in twenty-five went on to university. Secondly, that as this process of elimination goes on, so the relative prospects of survival as between children of different social origin become steadily less equal. At 11-13 a professional or managerial family's child had nine times as high a chance of entering a grammar or independent school as an unskilled worker's child. Some years later, at 17, he had nearly thirty times as high a chance as the other of still being at school. The data do not allow separate identification of the professional and managerial group at university entrance (although calculations from other figures in the Kelsall Report indicate that, of the rather smaller group with fathers in the Registrar General's Social Class I, some 29 per cent entered universities). But if the children of the two non-manual groups are taken together, their chances of selective secondary or higher education were seven times higher than those of unskilled workers' children at the stage of entry to grammar and independent secondary schools ; twenty times higher at the sixth-form stage at 17 ; and twenty-five to thirty times higher at the stage of admission to universities. One in every four of the non-manual, middle class children who entered a grammar school type course at 11 + eventually went on to a university ; but only one in fifteen to one in twenty of the grammar school entrants from unskilled working class homes did so.

As is already known, such marked social differences in educational opportunity can only to a limited extent be attributed to social differences in the distribution of measured " intelligence ". A local study approximately contemporary with the present data thus suggests that, if selection were based solely on IQ class differences in chances of grammar school entry at 11 + would be of roughly the order shown in the first column of Table I[2]. But that column excludes independent schools — which, as is evident from the second column, provide additional opportunities for middle class children, but are virtually closed to working class children. The disparities widen during the stage following entrance to selective secondary education. This results mainly from the fact, repeatedly demonstrated by recent research, that in the publicly supported grammar schools middle class children complete the full course far more often than do working class children. This conclusion stands even when the comparison is confined to children of similar measured ability[1]. The disparities are widened still further because the independent schools retain more of their children to 17 and beyond than do the publicly supported grammar schools.

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[1] The Crowther Report data exclude boys who, for medical or other reasons, did not do national service. The Kelsall Report's figures on the social composition of university entrants have been translated into figures of differential class chances of university entry on the assumption that the entire age group contained the same proportionate representation of social classes as the Crowther Report's national service sample.

[2] J. Floud et al., *Social Class and Educational Opportunity*, London, 1956 (pp. 42-61).

However, if a working class child survives the secondary school course to 17 or beyond, his academic performance and his chances of entering a university are then much less affected by the cultural, economic and other forces which in the years before have eliminated so many of his age mates of similar social origin. Table 2 shows that among sixth-formers leaving school at 17 or more in 1960-61 (a slightly more recent generation than that hitherto discussed) the proportion who left with at least the minimum qualifications for university entry varied somewhat by social class. But the disparities are generally small. They are noticeable mainly among girls, while among boys only the sons of semi- or unskilled workers fall below the average level of achievement[2]. The same point is still more evident when intellectual ability is held constant. The Robbins Report thus shows that among the ablest children selected for grammar schools who stayed on until 18, the proportions leaving with two A-levels were practically identical as between those from professional and managerial homes (79 per cent) and those from semi- and unskilled manual working class homes (81 per cent)[3]. Factors conditioning early school leaving and " under-performance " to age 16-17 may not influence the performance of " survivors " after age 17.

TABLE 2. CHILDREN OF DIFFERENT CLASSES LEAVING SCHOOL AT AGE 17 OR MORE IN 1960-61 : PERCENTAGE WHO LEFT WITH AT LEAST TWO A-LEVEL PASSES — I.E. MINIMUM REQUIREMENT FOR UNIVERSITY ENTRY

FATHER'S OCCUPATION	BOYS	GIRLS	ALL
Professional and managerial	53	41	48
Clerical	50	39	45
Skilled manual	51	33	43
Semi-skilled and unskilled	39	24	32
Unknown	41	29	35
All	50	36	44

NOTE. Calculated from Ministry of Education, Statistics of Education 1961, Supplement to Part Two, Table 12. The data do not include the small numbers of children aged 17 or more who left secondary modern schools or independent schools not recognized as efficient.

Of course, those who acquire the minimum qualifications for university entry do not necessarily seek or obtain admission. The same data as used for Table 2 show that of the boys and girls leaving school at 17 or older in 1960-61 with two or more A-levels, at least one third came from manual working class homes ; another nine per cent could not be classified, and must have included some of working class origin. By contrast, according to the Kelsall Report, only one-fourth of university entrants in 1955-56 were from manual workers' families. The difference cannot be explained by any increase in the working-class share of university places between 1955 and 1961[1]. It is likely that qualified working class sixth-formers rather more often than those from middle class homes fail either to seek or to obtain entry to universities, and go instead to technical colleges, colleges of education or directly into the labour market. Nevertheless, the class differentials at work among those who have survived to this stage of the educational process, all in all, are fairly slight. They are certainly of little account by comparison with those which, earlier on, result in the elimination of some 96 out of every 100 manual working class children from formal full-time education before the age of 17.

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[1] Cf. J. Floud et al., *op. cit.* (e.g. pp. 111-33) ; Ministry of Education, *Early Leaving*, London, 1954 (e.g. p. 18) ; *idem*, 15 to 18, London, 1960, Vol. II (e.g. pp. 118-19) ; and the Robbins Report, *op. cit.*, Appendix I (e.g. p. 43).

[2] Such class differentials as Table 2 shows do not arise from better sixth-form examination performances in independent schools than in publicly supported schools. On the contrary — as might be expected from the more stringent process of academic selection in schools of the public sector — the proportion leaving at 17+ with at least two ' A ' level passes was 49 per cent for the latter, compared with 38 per cent for the former.

[3] *Op. cit.*, Appendix I, p. 45 (from Ministry of Education statistics).

These points are worth further consideration. Table 3 derives from the Robbins Report's analysis of the post-secondary education of children born in 1940-41, in relation to class background and to intelligence as measured at 11. Two conclusions stand out. First, in the highest ability group, fewer children from manual than from non-manual homes receive some form of higher education. But the overall difference is fairly small, because the marked disparity in the proportions entering university as full-time students is partly compensated by a larger proportion of manual than of non-manual children who receive a higher education outside universities. Secondly, such non-university education does not, however, provide an alternative channel for manual workers' children in the next highest ability group. Among these children, with IQs of 115-29, twice as many of the non-manual as of the manual group again receive a full-time university education — but rather more of them also obtain higher education of other kinds (though not of part-time education by itself). It is clear that in discussions of " class opportunities " for higher education, a distinction must be drawn between different types of higher education ; and that the various factors determining opportunities may operate differently at different levels of ability.

Table 3 relates to all children with IQs of 115 or more, not just to those among them who stayed at school until 17 or 18. Earlier, however, it was suggested that if a working class adolescent stays at school until that age, his final school results and subsequent educational path are rather little affected by those factors that previously eliminated so many of his class (and ability) peers. This may be true also of his academic performance, if he enters a university. A survey of students admitted to universities in 1955 thus showed that the proportion obtaining first or second class honours was virtually the same (just about one half), whether the students came from manual or from non-manual backgrounds, and the same for both men and women[2]. Clearly, we must distinguish between factors determining the level of education reached and factors determining performance at any given level. Social class strongly influences the level reached ; but (as measured by broad

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[1] The Robbins Report's evidence on university entry in 1960 compared with earlier years indicates no such increase in the working class share ; e.g. *op. cit.*, Appendix I, p. 54.

[2] J.G.H. Newfield, " The Academic Performance of British University Students," *Sociological Review*, Special Monographs No. 7, October 1963.

TABLE 3. HIGHER EDUCATION OF " ABLE " CHILDREN OF DIFFERENT CLASSES BORN 1940-41

IQ AT 11	FATHER'S OCCUPATION	PERCENT OBTAINING HIGHER EDUCATION OF FOLLOWING KINDS			
		FULL-TIME DEGREE-LEVEL	OTHER FULL-TIME	PART-TIME ONLY	TOTAL
130 +	Non-manual	37	4	10	51
	Manual	18	12	10	40
115 — 129	Non-manual	17	17	4	38
	Manual	8	7	9	24

Source : Higher Education, 1963 : Appendix I, p. 42.

classifications of parental occupation) it appears to have no marked effect on performance at the upper level of secondary and in higher education.

There are other inequalities of educational opportunity besides those of class — inequalities between the sexes, for example. But these — so far as the present data go — are of little importance until sixth-form level. In each social class, as many girls as boys are admitted to grammar schools or the equivalent at 11 + ; and as many stay on till 17. But fewer sixth-form girls than boys leave with the minimum qualifications for university entry ; and fewer — even among the qualified — in fact gain admittance to a university. Moreover, the disparity between the sexes widens as one goes down the social scale. The resources — cultural, economic, psychological — necessary for a working-class child to overcome the obstacles on the way to a university place are very rarely expended on behalf of a girl. At the extreme of the scale, an unskilled manual worker's daughter has a chance of only one in five or six hundred of entering a university — a chance a hundred times lower than if she had been born into a professional family[1].

PRE-WAR AND POST-WAR EDUCATIONAL OPPORTUNITY

Floud's analysis of the 1949 social mobility data provides the most comprehensive information available on the educational experience of the generations who were at school between about the turn of the century and the outbreak of the second world war[2]. There are some difficulties in comparing this information with that just presented for the 1950's, because the occupational classification of the earlier material does not correspond precisely with those of the later sources. But the discrepancies are small enough to allow an approximate comparison, when individual categories are combined into rather broader groupings. The same difficulties necessitate that the comparisons of opportunities for secondary education and for university education be kept separate. Table 4 thus compares pre-war and post-war access to selective secondary schools, Table 5 pre-war and post-war opportunities for university education.

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[1] These class-related inequalities of opportunity between the sexes are somewhat lower if access to *all* forms of full-time higher education, not just to universities, are considered. Teachers' training colleges include a high proportion of women among their students, and recruit from further down the social scale than universities. See, e.g. Committee on Higher Education, *Higher Education* : Appendix 2B : *Students and their Education*, 1963 (pp. 69 ff), and also discussions of the " Slum School ", in *Half our Future* (1963).

[2] J. Floud, ' The Educational Experience of the Adult Population of England and Wales ', Chapter V of D.V. Glass, ed., *Social Mobility in Britain*, London, 1954.

The progressive expansion of opportunities for education of a grammar school type is evident from Table 4. Twice as many children born in the late 1930's went into grammar or independent secondary schools as of those born before 1910. The expansion has been continuous — although slowest as between the two " middle " generations, children born in the 1920's being

TABLE 4. PROPORTIONS IN DIFFERENT CLASSES OBTAINING EDUCATION OF A GRAMMAR SCHOOL TYPE, AMONG CHILDREN OF DIFFERENT GENERATIONS

SEX AND FATHER'S OCCUPATION		PERCENT OBTAINING SECONDARY EDUCATION IN GRAMMAR AND INDEPENDENT SCHOOLS			
PRE-WAR GENERATIONS (HALL-JONES GROUPS)	POST-WAR GENERATION (CROWTHER REPORT GROUPS)	BORN PRE-1910	BORN 1910-19	BORN 1920-29	BORN LATE 1930's
BOYS :					
1 - 3	Prof./Manag.	37	44	54	62
4 - 5	(Other Non-Manual & Skilled Manual)	7	13	15	20
6 - 7	Semi- and Unskilled	2	4	9	10
All boys		12	16	19	23
GIRLS :					
1 - 3	Prof./Manag.	37	50	50	62
4 - 5	(Other Non-Manual & Skilled Manual)	7	13	16	20
6 - 7	Semi- and Unskilled	1	3	5	10
All girls		11	16	17	23
BOYS AND GIRLS :					
1 - 3	Prof./Manag.	37	47	52	62
4 - 5	(Other Non-Manual & Skilled Manual)	7	13	16	20
6 - 7	Semi- and Unskilled	1	4	7	10
All children		12	16	18	23

Sources : For " pre-war " generations (born before 1930), Jean Floud, *op. cit.* (footnote 13). For " post-war " generation (born late 1930's, secondary schooling during 1950's), same sources as for secondary school data in Table I.

NOTE .

i) Hall-Jones groups 1-3 appear to be slightly more broadly defined than the " professional and managerial " group of the Crowther Report classification; conversely, Hall-Jones groups 4-5 appear to be rather more narrowly defined than the " other non-manual and skilled manual " category of the Crowther Report classification.

ii) The figures for the " post-war " generation include only those independent schools which are recognized as efficient by the Ministry of Education, and thus slightly understate the chances of selective secondary education in that generation, mainly for middle class children.

iii) No pre-war figures are available on the numbers of children from different social classes who continued school till 17, as distinct from entering a school (grammar or independent) in which they might stay on till 17.

affected by crisis measures taken during the 1930's. Expansion after the second world war is thus the continuation of a long-term trend. This, of course, is well known ; but it is sometimes forgotten. What is less well known is that expansion benefited the children of all social classes — not just those of the less prosperous groups. Moreover, this was true not only during the decades before the second world war, as Floud has already shown. But it has been equally true of the expansion following the 1944 Act. The point is crucial, though obvious. The widening of educational provisions does not in itself reduce social inequalities in educational opportunity ; it does so only if the expanded facilities are made proportionately more accessible to those children previously least able to take advantage of them. To some extent this has happened. As between the generations born in the 1920's and in the late 1930's, the chances of entering a grammar school or the equivalent rose by about two-fifths for children of the lowest social group, by about a fourth for those of the middle group, and by only about one-fifth for those of the upper group. The relative differential between top and bottom was reduced over that period from a ratio of more than seven to one to a ratio of about six to one. Again, the process has been continuous, not one confined to the post-war era : the corresponding ratio for the generation born before 1910 was about thirty-seven to one. Clearly, however, this long-term trend towards a reduction of social differentials in educational opportunity at the secondary stage is moderate and limited. The differentials remain sharp. Indeed, if the proportion not going to grammar-type schools is taken as the measure of changing educational opportunity, the persistence of inequalities stands out still more clearly. Less than two in every five children from homes in the upper social group failed to obtain education of a grammar school type in the 1950's, compared with almost two in every three in the first decades of the century — a reduction of nearly half. By contrast, no less than nine in every ten of the lowest social group were still deprived of a grammar school education in the 1950's : the proportion so deprived was barely a tenth smaller than thirty or forty years before. Conclusions concerning reductions in class differentials will thus be conditioned by the relative weight one attaches to the proportion achieving, as compared with the portion who fail to achieve, selective secondary schooling. But even on the more favourable basis, the reduction is neither very large nor a unique phenomenon of the period after the 1944 Act.

A university education remains the privilege of a very small proportion of young people, even though the proportion has increased over time. Moreover, the expansion of the universities has, if anything, benefited the children of middle class people and skilled workers more than those from semi-skilled and unskilled workers' homes. (See Table 5.) Since the figures are small, and the comparisons between them over time rather rough, too much weight must not be attached to them. Nevertheless, there are certainly no indications of any narrowing of class differentials in access to universities over the generations. In terms of the broad categories distinguished here, the social class composition of the student body in the universities has remained roughly the same during the past three to five decades — this despite expansion, maintenance grants for students, and the changes which have occurred in secondary school provision.

The pattern of sex differentials in educational opportunity has hardly changed. As in the latest generation, so too among those born before 1910, boys and girls had about the same chances of entering a grammar

Table 5. PROPORTION IN DIFFERENT CLASSES ENTERING UNIVERSITIES, AMONG CHILDREN OF DIFFERENT GENERATIONS

FATHER'S OCCUPATION		PERCENTAGE REACHING UNIVERSITIES AMONG								
PRE-WAR GENERATIONS (HALL-JONES GROUPS)	POST-WAR GENERATION (REG. GEN.'S SOCIAL CLASSES)	BOYS BORN			GIRLS BORN			ALL BORN		
		PRE-1910	1910-1929	LATE 1930's	PRE-1910	1910-1929	LATE 1930's	PRE-1910	1910-1929	LATE 1930's
1 - 4	I & II : Professional, Managerial, " Intermediate "	4½	8½	19(15)[1]	2	4	9½(7)[1]	3	6	14½(11)[1]
5	III : Skilled Manual and remaining Non-Manual	1	1½	3½(3)[1]	—	—	1(1)[1]	½	1	2½(2)[1]
6 - 7	IV & V : Semi-Skilled and Unskilled	½	1	1	—	—	½	—	½	½
All		2	3½	5½	½	1½	2½	1½	2½	4

[1] Hall-Jones group 5 may include a somewhat smaller segment of lower grade non-manual workers than Registrar General's Social Class III. The figures in brackets show the position as it would be if all non-manual workers in Social Class III were allocated to the top rather than to the middle group.

All figures are rounded to the nearest half digit — indicates a per cent of less than 0.3.

Sources : For " pre-war " generations (born before 1930), Jean Floud, *op. cit.* (footnote 13). For " post-war " generation (born late 1930's, reaching university age during second half of 1950's), estimates are based on data from Kelsall, *op. cit.* (as for Table I, except that here the parental class distribution of the age group has been assumed to correspond to that of all males aged 20-64 in 1951 if this assumption had been modified to take account of class differentials in fertility and mortality, social inequalities in post-war access to universities would be slightly greater than they appear here).

school or the equivalent (Table 4) ; but girls had a very much smaller chance than boys of entering a university (Table 5). In fact, the sex ratio among university students has remained remarkably stable — at about three girls for every seven boys — over the generations covered by the data. In this field, at least, female emancipation has made no further progress : the increased educational opportunities for girls reflect the general expansion of facilities, not a narrowing of sex differentials.

It may be asked whether there have been further changes since the early and middle 1950's, to which the latest data used here relate. Have the reforms associated with the 1944 Act perhaps had consequences which, while not visible in the experience of the early post-war generations of school children, may become apparent in the case of those children who entered the secondary schools in the late 1950's and early 1960's ? There is not sufficient comprehensive and comparable information available for a precise answer. But there is no reason to believe that any striking changes have taken place during the last few years.

An estimate for children leaving school in 1960-61 might seem to suggest some further reduction of class differentials in access to selective secondary schooling since the middle 1950's[1]. But since the estimate is rough, the small differences between it and the material presented in the text may be fortuitous. More striking is the broad similarity of results, which may be taken as confirmation of the general trend. There is also some evidence in a contrary direction — to suggest that social inequalities in educational opportunity may even have widened in recent years, rather than narrowed. A large-scale national follow-up survey of children born in 1946 thus indicates marked social differentials in the chances of admission to grammar and technical schools as between children of similar measured ability[2]. These children entered the secondary schools in the late 1950's ; in contrast, previous post-war work had suggested that class differentials in access to —

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[1] Ministry of Education data on school leavers aged 17+, in 1960-61 (Statistics of Education, Supplement to Part 2, Table 12) have been used in the estimate below for the generation born about 1943. It was assumed that those data could be taken to indicate roughly the numbers of children staying at school to 17+, out of a hypothetical age group intermediate in size between the 17 year olds of 1959 and 1960. Additional assumptions were made concerning the class composition of the age group, and of school leavers for whom fathers' occupation was not reported. These assumptions, however, make the comparison inexact, and also overstate the overall expansion in numbers staying at school till 17+.

FATHER'S OCCUPATION	PERCENTAGE STAYING AT SCHOOL TO 17+ AMONG CHILDREN BORN IN	
	LATE 1930's	ABOUT 1943
Prof./Manag.	42	52
Clerical	16	15
Skilled	5	9
Other Manual	3	5
All	10	14

From Table 1 of text.

[2] J.W.B. Douglas, *The Home and the School*, London, 1964. (Chapter VI and Appendix III, pp. 153-8.)

though not survival in — the publicly supported grammar schools during the early 1950's largely reflected class differences in the distribution of measured ability[1]. If the retrogression thus indicated has occurred, this could be the result of an increased use of general records, teachers' assessments and traditional examinations as the criteria of selection for secondary schools, in place of standardized ability tests. That such informal or conventional selection procedures discriminate still more in favour of middle class children than do the standardized tests of ability on which much criticism of the " 11 + " has focussed, is suggested by at least one study[2]. However, in the absence of further evidence, it would be unsafe to assume that any changes which may have taken place in the social distribution of educational opportunity since the early and middle 1950's — for better or for worse — have been more than marginal[3].

SOCIAL MOBILITY

Consideration of the trends in educational opportunity in England and Wales may help to throw some light on the wider question of trends, past and prospective, in social mobility. The belief, common in Britain, as in many other countries of Western Europe, that economic, political and educational changes must have increased the volume and chances of individual movement up and down the social scale in the course of this century, has hitherto found little or no support from empirical research[4]. But the evidence available has related generally to the patterns of social mobility prevailing yesterday. By its nature it has been able to say little about the patterns which may prevail tomorrow — in those generations which have only recently entered upon their working careers, or have still to do so. Thus in England and Wales, as Glass pointed out in the early 1950's, the provisions associated with the 1944 Education Act might eventually increase the frequency of social mobility[5].

In fact, this does not now seem likely from the results of the present analysis. True, class differentials in educational opportunity have diminished somewhat — with respect to entry into the grammar schools — since

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1. See note 6.
2. J. Floud and A.H. Halsey, ' Intelligence Tests and Selection for Secondary Schools ', *British Journal of Sociology*, March 1957.
3. The Robbins Report includes data for the generation born in 1940-41, but not (except on university entrance — see note 11) of such a kind as to allow direct comparison with the material analysed here for those born in the late 1930's and earlier. The Report, however, concludes from a brief analysis of some recent trends that there has been little reduction of class differences in educational achievement : *op. cit.*, Appendix I, pp. 52-4.
4. For Britain, see especially D.V. Glass, ed., Social Mobility in Britain, London, 1954 (Chap. VIII). Evidence on mobility trends over time in different countries has still to be brought together systematically ; this aspect was not dealt with in S.M. Miller's ' Comparative Social Mobility ', *Current Sociology*, Vol. IX, No. 1, 1960, by far the most comprehensive and rigorous international comparison of recent mobility rates. But general reviews of relevant European and American material are contained, e.g., in G. Carlsson, *Social Mobility and Class Structure*, Lund, 1955 (pp. 110-13) and S.M. Lipset and R. Bendix, *Social Mobility in Industrial Society*, London ,1959 (especially pp. 33-8, 90, 121-43). See also for more recent American data, E. Jackson and H.J. Crockett, " Occupational Mobility in the United States ", *American Sociological Review*, February 1964. There may, of course, be exceptions to the general finding of constant mobility rates in this century, cf., e.g. the Danish data in K. Svalastoga, *Prestige, Class and Mobility*, Copenhagen, 1959 (pp. 349-52).
5. D.V. Glass, ed., *op. cit.*, pp. 21-3.

1944. But this moderate reduction of the inequalities in access to selective schooling is no new phenomenon. It is the continuation of a long-term trend no less visible before 1944 — indeed during the whole period since the turn of the century. Yet, as we know, rates of social mobility did not rise to any noticeable extent during that period. Evidently, the small but continuous widening of the educational " channel " was roughly counterbalanced by a corresponding contraction of other avenues of social mobility. This is precisely what might be expected. For as professionalisation, bureaucratisation and technical complexity in work have proceeded, so access to occupations of the middle and higher levels has increasingly demanded formal educational qualifications. Career prospects and social position have come to depend less on experience and training acquired on the job, more on the education obtained in childhood and adolescence[1]. The range of occupational statuses over which promotion — or demotion — may be expected in the course of a normal working life has probably therefore narrowed. To that extent increased " educational mobility " will have been matched by decreased " career mobility ".

There is no reason to suppose that this process — a slow trend rather than any abrupt shift — has come to an end. It is therefore improbable that the modest reduction in educational inequalities which has occurred since 1944, any more than the earlier trend of which it is an extension, will be sufficient to outweigh the simultaneous gradual restriction of career promotion and demotion as a mode of social mobility. Only a fairly drastic modification of the factors which continue to prevent a more even distribution of educational opportunities would alter this prospect.

CONCLUSIONS

The preceeding analysis therefore gives as accurate a comparison of pre-war and post-war educational opportunities as it seems possible to present from available data. The results are easily summarized. Social inequalities in access to selective secondary education have been somewhat reduced over the past 50-60 years. But the reduction has, in the first place, been small — so small as to disappear should one choose to look at the differentials in failure to obtain a grammar school type education, rather than at the differentials in successful admission to such an education. In the second place, the reduction of social inequalities is not a new, post-1944 phenomenon, but the continuation of a long-term, gradual trend. And in the third place, it has been confined to entry into selective secondary education, while access to the universities has remained more or less unaffected.

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[1] For British evidence showing a decline over time in the proportion of industrial managers or directors who started their careers at the bottom of the ladder, as clerks or manual workers, with little formal education, see Acton Society Trust, *Management Succession*, London, 1956 (e.g. pp. 14-18) ; R.V. Clements, *Managers : a study of their Careers in Industry*, London, 1958 (pp. 154-61) ; and C. Erikson, *British Industrialists : Steel and Hosiery 1850-1950*, Cambridge, 1959 (pp. 56, 129). In the Civil Service, demands for improved opportunities for promotion have contribued to increased recruitment of administrative class officials from the middle ranks ; see R.K. Kelsall, *Higher Civil Servants in Britain*, London, 1955 (especially Chapter III). But exceptional factors are probably involved here — e.g. ; the public scrutiny to which a government bureaucracy is subject, difficulties in recruiting civil servants in recent decades. Among other work, R. Bendix, *Work and Authority in Industry*, New York, 1963, includes some American evidence on trends in the recruitment of industrial management (especially pp. 226-36).

The general increase of grammar school places has benefited children of all social classes, but working class children proportionately rather more than others. The general increase of university places has perhaps, if anything, benefited children of the upper and middle strata more than those from the lower stratum. Certainly, the overall expansion of educational facilities has been of greater significance than any redistribution of opportunities.

The persistence of marked social inequalities in educational opportunity is in line with a good deal of other evidence on the relative constancy of class divisions in our society. While average levels of living have increased in absolute terms, and crude economic insecurity has been reduced, relative differences between the strata remain sharp, for example, in the distribution of wealth and welfare, in the incidence of infant mortality, and in patterns of fertility[1]. Some of these or other social differentials may perhaps be in process of modification. Boundary lines between the strata are inevitably imprecise ; and there is considerable movement of individuals across them — though probably no more now than fifty years ago. Nevertheless, the social classes constitute genuine groupings, " quasi-communities " distinct from each other in their typical life chances and styles of living.

To recognize this, however, is not to assume that particular patterns of inequality are fixed, or embedded in so tightly interlocking a complex of economic and cultural factors as to defeat attempts either to identify particular causes or to pursue particular policies designed to reduce such inequalities. Differentials in educational opportunity coincide with many other social differentials : their causes need still to be separately traced. A good deal of recent work has pointed to the important — and almost certainly increasing —role of cultural, rather than crude material, factors in perpetuating educational inequalities : class differences in educational aspirations, occupational orientations, language, intellectual climate, and so on[2]. Fruitful or promising as much of this work has been, it should not blind one to the continuing influence also of other factors, less subtle in their operation — and more immediately amenable to change through deliberate policy.

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[1] The accumulated evidence on the persistence of class differentials in these and other respects is voluminous and scattered widely through the litterature. The following are some of the central or most recent studies relevant in this connection : J.L. Nicholson, " Redistribution of income in the United Kingdom ", in C. Clark and D. Stuvel (eds), *Income and Wealth* : *Series X,* 1964 ; H.F. Lydall, " The Long-Term trend in the Size Distribution of Incomes ", *J. Royal Statist. Soc.,* Series A, 122 (1), 1959 ; *idem* and D.G. Tipping, " The Distribution of Personal Wealth in Britain ", *Bulletin Oxford Univ. Inst. Statistics,* February 1961 ; B. Abel Smith and P. Townsend, *The Poor and the Poorest,* London, 1965 ; General Register Office, *Registrar General's Decennial Supplement for England and Wales, 1951* : *Occupational Mortality,* London, 1954, 1958 ; J.N. Morris and J.A. Heady, " Social and Biological Factors in Infant Mortality ", *Lancet,* 12th February - 12th March, 1955 ; N.R. Butler and D.G. Bonham, *Perinatal Mortality,* London, 1963 ; D.V. Glass and E. Grebenik, *The Trend and Pattern of Fertility in Great Britain* (Royal Commission on Population Papers, Vol. 6), London 1954 ; Census of England and Wales, 1951, *Fertility Report,* London, 1959 (Data on fertility and mortality from, or relating to the period around, the Census of 1961 had not been published at the time of writing). For a general review of this and other evidence, see J.H. Westergaad, " The Withering Away of Class : a Contemporary Myth ", in P. Anderson and R. Blackburn (eds), *Towards Socialism,* London, 1965.

[2] See, e.g. J.W.B. Douglas, *op. cit. ;* B. Jackson and D. Marsden, *Education and the Working Class,* London, 1962 ; and the work (as yet suggestive rather than conclusive) of B. Bernstein, cf. " Some Sociological Determinants of Perception, " *Brit. J. Sociology,* 1956.

Among this latter group of factors in England and Wales are the gross economic facts of educational provision — the continued existence of a private school system, closed to most of the population ; the persistence of wide differences in educational provision between different areas ; and the low level of total educational provision in a society which — like most European countries — reserves formal schooling beyond a fairly rudimentary stage for a small minority of its young people. The effect which this latter feature, in particular, may have on the social distribution of such educational facilities as exist has still to be explored in precise terms. But almost certainly it helps to give the patterns of educational inequality the character of a self-perpetuating cycle. The education of the great majority of children finishes at 15 or shortly after. As a result the working class child who strives or is encouraged to stay on at school is deviating from the pattern of early entry into the labour market which is the typical experience of his age-mates of the same social background. Because successful completion of a full grammar school course is thus at present inevitably exceptional, it is not surprising to find hints in the evidence available that the working class child who manages it fairly often comes from a family which, by virtue of origins, style of life or aspirations, is somewhat detached from the general working class environment.

IMPLICATIONS FOR POLICY

Policies designed to reduce the persistent inequalities of educational opportunity — whether in the interests of economic efficiency or distributive justice — must clearly take account of such factors. At the simplest level, they may take the form of measures to eliminate those inequalities of sheer material provision which can be seen in a sense as the " accidental " product of local variations in resources inherited from the past, in financial and staff recruitment capacities, and in the specific interpretation and implementation of national educational policies. The existence of such inequalities — in terms of class sizes, physical facilities, basic educational equipment, staff qualifications and turnover, as well as the number of places available in the selective streams of secondary education — has been clearly documented in recent years[1]. To eliminate inequalities of provision of this kind is to do no more than to remove anomalies. Such measures will involve no changes in national educational policies — except probably for some direct or indirect reduction in the autonomy of local educational authorities ; but only the more even and consistent application of those policies. Still less will they entail any attack on those underlying features of social structure in which many of the obstacles to effective educational opportunities are rooted. But by the same token, measures of this kind — while urgently needed, and essential as a basis for wider reforms — can be expected to have only limited effects on social selection through education.

A second, and in principle more radical, set of measures would be those directed to the structure of the educational system, and to the priorities and assumptions which are expressed in that structure. Such measures could take the form of a reallocation of resources from the " privileged " to the " deprived " sectors and streams of the educational system ; even a reversal of priorities, to discriminate positively and subtantially in favour of the deprived sectors and, within these, in favour of the socially and culturally most handicapped children. They could also take the form of policies intended to minimise the structural divisions of the educational system, and to postpone their operation until later stages of the typical school career. The elimination of " streaming " by merit in the primary schools ; the effective introduction of " comprehensive " education at the secondary stage, involving a postponement of selection for courses of varying academic and vocational content until a late age, and accompanied by a substantial rise in minimum school leaving age ; not least, of course the abolition of private education — all these would belong in the latter category. If fully implemented, they would mark — and presuppose — a basic change in educational philosophy. Even if they were intended only, or primarily, to even out the terms upon which children of different social and cultural backgrounds compete with each other, they would in effect entail an acceptance of an extended common education as the right of all children, and as a prerequisite of subsequent academic and vocational selection. Current official moves towards " comprehensive " secondary education and a closer " integration " of the major independent schools with the public sector might be interpreted as steps in this direction. But it is doubtful whether the force behind these moves will be sufficient — or indeed is intended — to produce such basic changes in the structure and objectives of the educational system. The major private schools are to be " integrated ", not abolished ; and the pressures for the retention of " streaming " within the walls of the new comprehensive schools — as in the primary schools — are quite evidently powerful.

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[1] See, e.g. *The State of our Schools* : Report of the National Survey of School Conditions, National Union of Teachers, 1963. *The School Building Survey 1962*, Dept. of Education and Science. HMSO, 1965.

Even if such a fundamental shift in the character and orientation of English education were to take place, its ultimate effect on the patterns of social selection might be rather limited. The abolition of private schooling would clearly close a major loophole, through which the children of wealthy parents are now able to escape the impact of the national principle of equality of opportunity. But these children would carry many advantages with them into the competition within the public sector. Comprehensive education at the secondary stage, and a substantial rise in the minimum age of school leaving, would indeed postpone the process of competitive selection. But the effect could be to shift the social inequalities of educational opportunity to the higher ages at which selection would then operate (and where at present, as we have suggested, competitive social pressures are not so strongly felt) ; rather than to reduce those inequalities drastically. A comparison with the United States, where the school leaving age is high and secondary education follows a far more " comprehensive " pattern than in Europe, is suggestive. An estimate for the early 1950's indicated that the chances of graduating from a university or college varied from over 40 per cent for children from professional and semi-professional families to some 6 or 8 per cent for children from manual workers' and farmers' homes[1]. The range of variation is not very dissimilar to that found in England and Wales, at about the same time, with respect to the proportions staying on at school to 17 or more (Table 1) — with the big difference that the American figures relate to college graduation. Of course, the comparison is rough ; it may indeed suggest a somewhat narrower range of variation in the United States ; and, given the very sharp class — and colour — related local differences in effective educational provision, the " comprehensive " character of American secondary education is to some extent more nominal than real. Even so, the comparison gives some indication of the limitations which the structure of the wider society may be expected to impose on the effects of changes — however radical in conception — confined to the educational system itself.

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[1] D. Wolfle, *America's Resources of Specialized Talent,* New York, 1954, (p. 162). For a recent attempt at an international comparison of social selection in secondary and higher education, see J. Ben-David, ' Professions in the Class System of Present-Day Societies ', *Current Sociology,* Vol. XII, No. 3, 1963-64 (Chapter III).

This is not to argue against such changes : far from it. Their impact on patterns of social selection is neither precisely predictable, nor likely to be negligible. Moreover to provide an extended common education for all children can be seen as a policy objective of intrinsic merit, which does not need to be justified on other grounds. The point is merely this : that the persistent class differentials in educational opportunity in the final analysis are anchored in equally persistent divisions of the society at large. Very sharp reductions in those differentials are therefore unlikely to be achieved without broader changes in the class structure itself — changes affecting both the economic foundations of the structure, and the related cultural divisions which imprint themselves upon the patterns of educational experience and achievement.

VIII

THE SELECTION PROCESS IN THE SWEDISH EDUCATIONAL SYSTEM : ITS GEOGRAPHICAL AND SOCIO-ECONOMIC ASPECTS AND ITS IMPLICATIONS FOR POLICY ON STUDENT AID PROGRAMMES

by
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One of the principal goals of the Swedish system of education is, as in most other countries, to make it possible for every young person with interest in, and aptitude for higher studies to pursue such studies regardless of his social, economic and geographical background. Factors connected with background should not be allowed to handicap a person in his education. This objective is in the interests of both the individual and society.

It is the task of the state authorities to take steps which, as far as possible, will ensure that this goal is reached. One of the measures at the disposal of the authorities is financial assistance to students. This aspect of the educational policy of Sweden has been augmented and differentiated successively during the past thirty or so years. The most recent stage, with reference to study help, was passed in 1964, when the Government arrived at a decision with far reaching effects for students at all levels.

These decisions had, in their turn, been prepared by two committees appointed by the Government at the suggestion of the Minister of Education and Ecclesiastical Affairs. One of the committees was convened in the autumn of 1959, with instructions to study assistance to students in the field of higher education. The other was appointed in the spring of 1962 to study a suitable design for study help at lower levels of education. The two committees had the same chairman — Olof Palme, then chief of the Prime Minister's secretariat, now a member of the Government and Minister of Communications.

The work of State committees usually comprises two parts : the collection and analysis of facts in the special field covered by the committee's terms of reference, and the confrontation of these facts with the values which the members of the committee represent. There were, in respect to the collection and analysis of facts, two fields on which the two committees concentrated their efforts. One of these fields was the current economic situation of the students at different levels of the educational system. The other was the socially, economically and geographically correlated leakage taking place as year-groups of young people pass through the educational system. Knowledge of the way in which students support themselves financially, as well as knowledge of the places in the educational pyramid where leakage conditioned by socio-economic considerations still occurs, must be of fundamental importance for the authorities when faced with the problem of utilizing State study assistance as a means for reaching the goal, that is, to give all young people, regardless of background, the possibility of getting the education for which their interests and aptitudes fit them.

The committee studying the question of State help to students at the higher levels of education paid particular attention to the process of selection in the educational system in its geographical and socio-economic aspects. This study was made possible by the publication of a large number of studies dealing with this sphere made in Sweden during the post-war period[1]. Other information of importance in this connection was ordered by the statisticians connected with the secretariat of the committee. The compilation and analysis of these facts, which were collected from various sources at the request of the committee, were entrusted to me in my capacity as secretary to the committee. This compilation and analysis appeared later in an official report in the autumn of 1963, called *Studentrekrytering och studentekonomi, SOU 1963:53.*

The following constitutes a summary of a chapter of this report. This summary is divided into five sections. Sections 1 and 2 report the geographical and socio-economic backgrounds of Swedish undergraduates. (By *undergraduates* is meant students enrolled at universities and equivalent educational establishments.) The undergraduates are the final product of the selection process. Sections 3 and 4 give an account of the changes that take place in the socio-economic background of students at the different levels of the Swedish educational system as an annual group of young people moves from the base to the apex of the educational pyramid. Section 5 discusses various factors that may help to explain this leakage. To these five sections will be added a sixth touching briefly on the consequences for Swedish educational policy drawn form this type of fact in general and of those facts presented here in particular.

1. THE GEOGRAPHICAL BACKGROUND OF UNDERGRADUATES

The geographical background of Swedish undergraduates will be illustrated with data referring to those who began their university studies during the year 1960/61. The series mentioned in note 1, which the Central Office of Statistics in Sweden publishes annually, gives information on the place of residence and father's occupation for each freshman[2].

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[1] The Central Office of Statistics in Sweden publishes annually statistics referring to higher education ; these statistics also contain data on the social and geographical backgrounds of the students. (*Högre studier, Sveriges officiella statistik, Undervisning.*) Another important study in this connection is one made on the background of students entering upper secondary schools (*gymnasia*) in 1959 and 1960. (L. Gouido and K. Wallberg, *Akademikers Skuldsättning,* Kap. 6. SOU 1963 : 44.) A third important investigation was made to study students views of choices and forms of study in connection with upper secondary education. (K. Härnqvist and Å. Grahm, *Vägen genom gymnasiet*, SOU 1963 : 15.) To these must be added the various investigations of the students' geographical and social background made since the war at the Institute of Statistics, University of Lund, under the leadership of the head of the Institute, C.-E. Quensel.

[2] *Högre studier,* 1960/61, Table 9.

The information on geographical background in this statistical series refers to the country and the type of place of residence — i.e. town or rural area — from where the undergraduate originates. Administratively, Sweden is divided into Stockholm and 24 counties. These local government units are distributed among three principal regions : Central Sweden or Svealand, comprising Stockholm and seven counties, South Sweden or Götaland, with twelve counties, and North Sweden or Norrland, which consists of five counties. These main regions differ considerably in density of population and economic structure.

The frequency of undergraduates in the various counties is shown in Table 1, in which freshmen at universities and the like from Stockholm and the different counties in 1960/61 have been placed in relation to one-fifth of all those in the respective areas who, on November 1, 1960, were in the age group 20-24 years. (A periodical census made regularly in Sweden took place on 1st November 1960.)

TABLE 1. FRESHMEN AT UNIVERSITIES, ETC. 1960/61 DISTRIBUTED ACCORDING TO COUNTY IN RELATION TO ONE-FIFTH OF THE AGE GROUP 20-24 YEARS, 1st NOVEMBER 1960

Svealand :	
Stockholm	17.5
Stockholm county	12.8
Uppsala county	14.7
Södermanland county	8.3
Värmland county	6.8
Orebro county	8.7
Västmanland county	6.8
Kopparberg county	6.4
Götaland :	
Ostergötland county	8.6
Jönköping county	8.2
Kronoberg county	8.7
Kalmar county	7.5
Gotland county	5.2
Blekinge county	7.3
Kristianstads county	8.3
Malmöhus county	11.2
Halland county	8.6
Göteborg & Bohus county	10.6
Alvsborg county	7.2
Skaraborg county	8.0
Norrland :	
Gävleborg county	7.4
Vasternorrland county	7.7
Jämtland county	7.0
Västerbotten county	7.8
Norrbotten county	6.2

It will be seen from Table 1 that the frequency of undergraduates from the different counties is rather uniform. In no fewer than 15 counties, the proportion of undergraduates in one-fifth of the age group 20-24 years was between 7 and 8 per cent. One group of counties, however, has a not inconsiderably higher percentage. They are the City of Stockholm and the counties of Uppsala, Stockholm, Malmöhus and Göteborg och Bohus. These counties contain, or are in the immediate vicinity of, universities and similar higher educational institutions.

Table 2 shows the frequency of undergraduates in the three main regions of Sweden. Freshmen in 1960/61 from Norrland, Svealand and Götaland have, in the same way as in Table 1, been placed in relation to one-fifth of all the people in the respective regions who, on 1st November, were in the age group 20-24 years. Stockholm and the four counties in which a university is situated, or which are in the immediate neigbourhood of a university, have been excluded from their respective regions and collected in a group of their own. In order to give some idea of the development in this sphere since the war, data are given on 1947 freshmen, i.e. their relation to one-fifth of the age group 20-24 years in 1945[1]. (The census on which the figures are based was made in 1945.)

TABLE 2. FRESHMEN AT UNIVERSITIES, ETC. 1960/61, DISTRIBUTED ACCORDING TO REGION IN RELATION TO ONE-FIFTH OF THE AGE GROUP 20-24 YEARS ON 1ST NOVEMBER 1960, AND FRESHMEN AT AUTUMN TERM 1947 IN RELATION TO ONE-FIFTH OF AGE GROUP 20-24 YEARS ON 31ST DECEMBER 1945

	1947	1960/61
Stockholm	7.8	17.5
Stockholm, Uppsala, Malmöhus and Göteborg och Bohus counties	3.5	11.8
Svealand excluding Stockholm, and Stockholm and Uppsala counties	2.0	7.4
Götaland excluding Malmöhus and Göteborg och Bohus counties	1.8	8.0
Norrland	1.4	7.2

Thus there is no longer — if Stockholm and the four counties containing or in the immediate vicinity of a university are excluded — any significant difference in the frequency of undergraduates between the different regions of Sweden. The situation was different in the 1940's. Then it was more unusual for young people from northern Sweden to pursue university studies.

Our knowledge of the type of place of residence — town or country — from which undergraduates originate gives only a rather rough picture of the actual conditions, for administrative boundaries have been taken to distinguish between the two types of domicile. This means that agglomerations that do not differ greatly from the central parts of towns will be counted as rural areas, while large stretches of country incorporated in an adjacent town will be counted as urban areas.

The extent to which young people from what are, from the aspect of administration, called towns and rural areas respectively enter universities is shown in Table 3. Freshmen at universities and similar establishments during the university year 1960/61 from towns and rural areas have, in accordance with the principles in Table 1, been placed in relation to one-fifth of the age group 20-24 years from the corresponding type of domicile. A division of the counties into five groups has also been made.

There is, as shown in Table 3, a certain difference between town and country — regardless of region — in the tendency to pursue higher studies. This difference is largely the same in the three last-named regions. In the group Stockholm, Uppsala, Malmöhus and Bohus counties — i.e. the counties with or in the immediate vicinity of universities — the frequencies are rather different. But also in these last-named counties there are certain differences between towns and rural areas.

These differences between town and country coincide to a certain extent with differences in the education of young people from different social envi-

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[1] Data on 1947 freshmen are taken from a study made by the Central Office of Statistics called *1957 ars studentekonomiska undersökning.*

TABLE 3. FRESHMEN AT UNIVERSITIES, ETC. 1960/61 DISTRIBUTED ACCORDING TO TOWN AND COUNTRY IN RELATION TO ONE-FIFTH OF AGE GROUP 20-24 YEARS 1ST NOVEMBER 1960

	TOWNS	RURAL AREAS
Stockholm	17.5	—
Stockholm, Uppsala, Malmöhus and Göteborg och Bohus counties	13.0	9.2
Svealand excluding Stockholm, and Stockholm and Uppsala counties	9.0	5.7
Götaland excluding Malmöhus and Göteborg och Bohus counties	9.8	6.5
Norrland	9.4	6.2

ronments. It has been shown by Swedish investigations that even when endeavours are made to keep the social origin constant, the educational tendencies of young people still vary somewhat according to whether they come from town or country. Nowadays, however, these differences are much smaller than formerly.

Thus, during post-war years, a considerable levelling-off has taken place in the geographical background of undergraduates in Sweden. At present there is about the same proportion of young people from the three principal regions, Svealand, Götaland and Norrland, entering universities, if Stockholm and the four counties containing, or in the immediate neighbourhood of universities, are excluded. The frequency of undergraduates is especially high there. There are still some differences between proneness to pursue higher studies in town and country, though they are not particularly great. Therefore it seems no longer necessary to attribute a very great importance to factors related to the geographical situation of place of residence in a discussion of the process of selection in the Swedish educational system.

2. THE SOCIO-ECONOMIC BACKGROUND OF UNDERGRADUATES

As mentioned above, our knowledge of the socio-economic background of undergraduates also includes information on the father's profession or occupation. In investigations of this kind, these occupations are usually classified in ten groups according to a method developed at Lund University by Sven Wicksell and Tage Larsson. The ten occupations are chosen with consideration taken to the economic situations and attitudes towards higher studies.

It is, unfortunately, impossible in Sweden to elucidate the relation between propensity to study and the father's occupation in the same way as the relation between propensity to study and the geographical background. We lack, namely, information on the total number of young people in the country distributed according to the father's occupation in keeping with the classification method applied here. The only thing that can be done is to place the socio-economic background of the undergraduates in relation to the socio-economic structure of the whole population of the country.

In Table 4, the freshmen 1960/61, arranged according to father's occupation, are compared with male voters at the 1960 general election distributed according to occupation[1]. This information on male voters is all we have to illustrate the socio-economic structure of the whole population according to the methods of distribution applied in the study of the situation of the undergraduates. This comparison is subject to certain shortcomings, which need not be discussed here, however.

TABLE 4. FRESHMEN AT UNIVERSITIES, ETC. 1960/61 AND MALE VOTERS 1960 ACCORDING TO FATHER'S OR OWN OCCUPATION RESPECTIVELY

	FRESHMEN 1960/61	MALE VOTERS 1960
Agriculture and ancillary occupations	9.2	15.1
Elementary-school teachers	4.1	0.9
University graduates (not reported elsewhere)	22.4	3.1
Officers	1.6	
General managers, wholesalers	7.1	1.4
Businessmen. Commercial travellers, Master artisans	11.9	7.4
Higher grade officials (without university degree)	15.6	19.1
Other officials	9.8	
Manual workers	14.3	53.0
Miscellaneous	0.3	—
No information	3.7	—
	100.0	100.0

Table 4 shows that some occupations are greatly over-represented among the fathers of undergraduates, others under-represented. Elementary-school teachers, university graduates/officers and general managers/wholesalers are greatly over-represented, manual workers greatly under-represented. The former groups comprised no less than 32.2 per cent of the fathers of freshmen at universities and similar establishments 1960/61, but only 5.4 per cent of the male voters. The latter represented only 14.3 per cent of the fathers of freshmen that year, but well over half of all the male voters. The group " Businessmen, commercial travellers and master artisans " was also over-represented. There were also, among these freshmen, a greater proportion of children of officials than the percentage of such people in the whole population. The only under-represented group besides manual workers was the category " Agriculture and ancillary occupations, " although to a much smaller degree.

The development that has taken place during the post-war years in the socio-economic background of undergraduates is illustrated in Table 5. Freshmen 1960/61 distributed according to father's occupation are compared in this table with two earlier annual groups of freshmen, those enrolled in 1947 and 1953, and according to the occupation of the fathers[2]. It should be observed that this comparison does not refer to the frequency of undergraduates in the various occupational groups — as mentioned earlier, we have no statistical material on which to base a comparison — but only the changes in the proportions of freshmen from the various occupational groups. These changes need not, naturally, mean that there has been an increase or a decrease in the frequency of undergraduates, but may be due to changes in the number of families or in the size of families in the various occupational groups.

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[1] The data on this year-group of freshmen are from Högre studier, 1960/61, Table 6.

[2] The data on the 1947 and 1953 freshmen are from the investigation mentioned in note 1, page 236.

TABLE 5. FRESHMEN ENROLLED IN THE AUTUMNS OF 1947 AND 1953, AND FRESHMEN 1959/60 IN RELATIVE NUMBERS ACCORDING TO FATHER'S OCCUPATIONS

	1947	1953	1960/61
Agriculture and ancillary occupations	9	10	9
Elementary-school teachers	6	6	4
University graduates (not reported elsewhere)	21	21	22
Officers	3	2	2
General managers wholesalers	8	7	7
Businessmen, commercial travellers, master artisans	15	13	12
Higher grade officials (without university degree)	19	17	16
Other officials	9	10	10
Manual workers	8	12	14
Miscellaneous	—	—	—
No information	2	2	4
	100	100	100

The two groups of occupations still under-represented among the fathers of freshmen — farmers and manual workers — have had, as illustrated in Table 5, a different development as regards relative proportions. The share of manual workers has increased, that of farmers has remained constant. The increase in the relative proportion of manual workers must be assumed to imply that there has been an especially great increase in propensity to higher studies among young people from manual workers' homes. There has probably also been a not inconsiderable increase among young people belonging to the farming population since the farmer group, which is diminishing rather rapidly, has been able to keep its position unchanged. The other occupational groups, which are either somewhat or greatly over-represented among undergraduates, have not been subjected to great changes in their relative strength.

It must also be observed that, during the post-war period, there has been a development in the problem of the relation between sex and socio-economic background. The percentage of women undergraduates was formerly much lower from manual-worker and farmer families than from families with another background. In the middle of the 1940's, for example, only 18 per cent of the undergraduates from manual-worker families were women, as compared with 35 per cent from homes where the father was a university graduate. At present the proportion of women undergraduates in the respective occupational groups is between slightly more than 30 per cent and just below 40 per cent of all undergraduates.

Thus, as will be gathered from what has been said above, there has occurred a certain broadening of recruitment to higher studies in Sweden during the post-war period. However, the fact remains that certain occupational groups are still under-represented among fathers of undergraduates, while others are greatly over-represented. Undergraduates from farmers' and manual workers' homes comprise slightly less than one-fourth of all undergraduates, though these two occupational groups together comprise 70 per cent of the whole population of Sweden. Undergraduates from homes where the father has had a university education, is an officer or a general manager, on the other hand, still comprise more than 30 per cent of all undergraduates, in spite of the fact that these three occupational groups represent only 5 per cent of the total population. In other words, there is good reason in a discussion of the process of selection in the Swedish educational system to pay much attention to factors connected to the socio-economic background.

3. CHANGES IN THE SOCIO-ECONOMIC BACKGROUND OF STUDENTS IN THE SWEDISH EDUCATIONAL SYSTEM

The differences still discernible between the socio-economic background of Swedish undergraduates and the social structure of the total population of the country are due to changes which take place as an annual group of young people passes through the educational system.

There have been three principal transfer points in the Swedish educational system hitherto : from the compulsory elementary school to the lower secondary (*real*) school, from the *real* school and similar schools to the higher secondary school (*gymnasium*) and from the *gymnasium* to the university and other higher educational establishments. In the spring of 1962 it was resolved that a nine-year compulsory school was to be introduced in Sweden. When this school has been fully established in the whole country, there will remain only the transfers from the nine-year school to the *gymnasium* and from the *gymnasium* to higher studies. Two different decisions may be made at the transfer points. Pupils leaving the compulsory school must make up their minds whether they intend to enter the labour market immediately or attend higher schools. If they decide to continue their studies they must also decide the type of higher studies they wish to pursue.

A selection process in an educational system is illustrated best if one annual group can be followed through all stages of the system. We have no material of this type in Sweden as yet. The Central Office of Statistics is engaged at present in following such an annual group of young people on its way through the educational system of Sweden, namely those who, in the autumn term of 1960, were in the sixth class of the compulsory nine-year school. It will be ten years or so, however, before we get a picture of what will happen to these young people in their education.

There is, however, a rich statistical material illustrating the socio-economic background of students on four different levels, into which the Swedish educational system may be said to have been divided during the post-war years, i.e. elementary school, *real* school, *gymnasium* and university or other advanced educational establishments. Some of these data on the social background may be used to give — although they do not refer to the same persons on different levels — a rather good picture of the changes in the socio-economic background of pupils as an annual group of young people passes through the Swedish educational system. On the one hand we have data on the socio-economic background of those who were in the fourth class of the elementary school in 1945, and, on the other, equivalent data on those who were enrolled at the universities in 1956, and who graduated in 1959/60. One and a half decades, or approximately the time it should take on an average for a person starting from the fourth class in the elementary school to take a university examination, have passed between 1945 and 1959/60.

These data, for technical reasons, refers only to males. Further, only young people from homes where the father is either a university graduate, an officer, a general manager, or a manual worker are included. University graduates, officers and general managers all belong to what is called, in Swedish statistics, status group I ; to this group belong also parts of the groups higher grade officials and farmers. Manual workers belong to status group III.

1. *The elementary school.* In 1945, more than 57 per cent of the children in class four of the elementary school belonged to status group III, while ca. 7 per cent belonged to status group I. This stage in the Swedish educational system should, in principle, reflect the whole social structure of society.

2. *The real school.* The socio-economic background of the pupils in the *real* school forms corresponding normally to the ninth year at school was quite different in 1948/49 ; this is the earliest year during which the pupils who were in class four in 1945 could have reached this level. The children from status group III totalled only 28 per cent of all pupils, while pupils from status group I accounted for 3 per cent[1].

3. *The gymnasium.* Further changes have taken place in the socio-economic background. The elementary school pupils in class four in 1945, who continued their studies at the *gymnasium,* may be assumed to have taken their matriculation examination — to which studies at the *gymnasium* lead — in 1953 or 1954 at the earliest. We have no information on the social background of these pupils, but data exist on those who left the *gymnasium* in 1952. About 17 per cent of them came, according to available information, from manual workers' homes, i.e. from what in Swedish social statistics is called status group III. Those originating from homes where the fathers are university graduates, officers or general managers accounted for 30 per cent. If to these are added — in order to get a group equivalent to what is called status group I — the students from the higher grade officials and farmer groups the proportion is almost 40 per cent[2].

4. *Universities,* etc. At the university level, finally, there has also been some, though not particularly great, change in the socio-economic background compared with the next lower level. Thus it is more common for young people from manual workers' homes than for those from homes where the father is a university graduate, an officer or a general manager not to choose a university education after the *gymnasium,* but a shorter training of some kind. At the autumn term of 1956 — a time when some of the pupils

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[1] These data are from K. Härnqvist, *Reservena för högre utbildning* (SOU 1958 : 11).

[2] These data are from B. Israelsson and C.-E. Quensel, *Studenternas utbildningsval.*

in the fourth class of the elementary school in 1945 may be assumed to have reached this level — rather more than 13 per cent of the students came from manual workers' homes and 29 per cent from university graduates', officers' and general managers' homes[1].

The data referring to all undergraduates at Swedish universities, etc. differ considerably from those referring to the individual faculties at the universities. In the autumn term of 1956, no fewer than ca. 50 per cent of the students of law and medicine were from homes belonging to status group I, as compared with only 7 per cent from homes belonging to status group III. On the other hand, the technical universities provide examples of a university education in which manual workers' sons are relatively well represented.

Of those, finally, who graduated from universities, etc. 1959/60 — at a time when some of the pupils in the fourth class of the elementary school have reached the apex of the educational pyramid — hardly 16 per cent came from manual workers' homes, while slightly less than 27 per cent were from status group I homes. It will be observed that the proportion of manual workers' sons of all those examined in 1959/60 was rather higher than in the autumn term of 1956, and the proportion of university graduates', officers' and general managers' sons slightly lower. It is difficult to say what caused these changes.

This series of facts from a fifteen-year period gives the following picture of the changes in the socio-economic background : Children belonging to status group III, i.e. mainly from manual workers' homes, comprised rather more than half of the pupils at the base of the educational system. The share of this group decreased to less than 30 per cent at the *real* school level, to 17 per cent at the *gymnasium* level, if this level is assumed to correspond to those taking the final examination at the *gymnasium* and to rather more than 13 per cent at university level ; undergraduates from manual workers' homes accounted, however, for hardly 16 per cent of the graduates from universities and the like in 1959/60. Children from status group I, on the other hand, comprised only 7 per cent of the pupils in the fourth class of the elementary school, but more than 30 per cent of the pupils at the *real* school level. Their share at the higher educational levels is difficult to determine, but if students from university graduates', officers' and general managers' homes, a large part of the students from higher grade officials' homes and a small proportion from farmers' homes are added together, they will amount to about 40 per cent. Thus for status group III there has been an inversion from 57 per cent to ca. 15 per cent between the base and apex of the Swedish educational system. The corresponding figures for status group I are 7 per cent and ca. 40 per cent.

The decisive changes in the socio-economic background during the passage of one annual group through the Swedish educational system clearly takes place before the examination at the *gymnasium* ; partly at the transfer from the elementary to the *real* school and from *real* or nine-year compulsory school to the *gymnasium,* and partly during the actual study period at the *real* school or *gymnasium.* We know rather little, however, about the relation between the frequency of pupils discontinuing their studies and the socio-economic background at the *real* school and *gymnasium* levels. The changes after the matriculation examination are of more modest proportions.

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[1] The data on all undergraduates in the autumn of 1956 and on freshmen 1956/57 are from *Högre studier,* 1956/57.

4. CHANGES IN THE SOCIO-ECONOMIC BACKGROUND AT THE TRANSFER FROM THE COMPULSORY SCHOOL TO THE GYMNASIUM AND FROM THE GYMNASIUM TO THE UNIVERSITY

There will be, when the nine-year compulsory school has been introduced throughout the whole of Sweden, two important transfer points in the Swedish educational system : from the compulsory school to different kinds of *gymnasia,* and from the *gymnasia* to universities or other forms of higher education. It may be of interest to illustrate in greater detail, in the light of the latest material available, what happens now at these two transfer points.

In the first place, some new data on the transfer to the *gymnasium* from lower schools will be reported. In the spring of 1961, a sample of pupils in classes immediately below *gymnasium* level were asked, whether they intended to apply for entrance to the *gymnasium*[1]. The replies, arranged according to the social status of the fathers, are given in Table 6.

TABLE 6. PUPILS IN CLASSES IMMEDIATELY BELOW THE GYMNASIUM, SPRING 1961, ACCORDING TO STATUS GROUP AND THEIR INTENTIONS REGARDING GYMNASIUM STUDIES

	INTEND STUDYING AT GYMNASIUM	DO NOT INTEND STUDYING AT GYMNASIUM
Status group I	72.1 %	27.9 %
Status group II	44.4 %	55.6 %
Status group III	28.3 %	71.7 %

There is still, as the table shows, a clear connection between social background and inclination for higher studies. The young people from status group III showed the greatest interest in *gymnasium* studies, while those from status group I showed the least. Thus more than 70 per cent of the former intended continuing their studies, but hardly 30 per cent of the latter.

In Table 6, however, we are concerned with plans only. We do not know how far these pupils really applied to enter the *gymnasium.* On the other hand, for 1960 we have data referring to the socio-economic background of pupils who were really accepted by the *gymnasia.* The pupils really entering the *gymnasia* in 1960 are shown in Table 7, divided into ten groups according to occupations of fathers[2]. These data on the fathers' occupations have been placed in relation to the social structure of the total population of the country, as in Table 4.

Table 7 confirms that there is still a socially conditioned leakage between lower schools and the *gymnasium.* Thus the socio-economic background of those entering the *gymnasium* differs from the social structure of the total population of the country. Two occupational groups — farmers and manual-workers — are under-represented among fathers of *gymnasium*

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[1] The investigation dealing with plans for the *gymnasium* is the one by K. Härnqvist and A. Grahm, *Vägen genom gymnasiet,* mentioned in note 1, page 234.

[2] L. Guido and K. Wallberg, *Akademikernas skuldsättning.* Cf. note 1, p. 234.

TABLE 7. PUPILS ENTERING GYMNASIA, 1960 AND MALE VOTERS ACCORDING TO OCCUPATION

	ENTERING GYMNASIA	MALE VOTERS
Agriculture and ancillary occupations	7.9	15.1
Elementary school teachers	3.1	0.9
University graduates (not reported elsewhere)	14.0	3.1
Officers	1.5	
General managers, wholesalers	5.6	1.4
Businessmen, commercial travellers, master artisans	11.0	7.4
Higher grade officials (without university degree); certain professions	18.2	19.1
Other officials	10.4	
Manual workers	23.2	53.0
Miscellaneous	4.2	—
No information	0.9	—
	100.0	100.0

pupils, while the other groups are over-represented. (It is not unlikely that the number of persons assigned to the group " higher grade officials " is somewhat too high in Table 7, while the group " university graduates " is rather too low.) It must be added that there is a relation not only between socio-economic background and *gymnasium* studies, but also between background and the type of *gymnasium* chosen. In Sweden we differentiate between *gymnasia* providing a general education and those with more specialized — technical and commercial — curricula. It is, for example, rather unusual for young people from homes where the father is a university graduate to enter technical or commercial *gymnasia,* while it is particularly common for manual workers' children to do so.

In the second place, new data on the transfer from the *gymnasium* to the university will be presented. The Central Office of Statistics has collected information on what has happened from the educational aspect to young people leaving the *gymnasia* in 1957. These data refer to the years 1957/58, 1958/59 and 1959/60.

Three-quarters of the students taking the examination at the end of the *gymnasia* in 1957 were attending general *gymnasia* and the rest special *gymnasia.* The patterns of further education for these two groups differ considerably. Of those leaving the general *gymnasia* after matriculation, ca. 75 per cent had become enrolled for higher education within three years after matriculation, while the corresponding figure for special *gymnasia* was hardly 10 per cent. Studies at special *gymnasia* are regarded as vocational training, in contrast to studies at general *gymnasia.* As already mentioned, the socio-economic background differs at these two types of *gymnasia.*

Table 8 illustrates what, from the aspect of further education, has happened to those leaving general *gymnasia,* i.e. the greater part of the young people we are concerned with here. They have been divided into three groups : (*i*) those who, after three years, have continued their studies at universities or the like, (*ii*) those who have continued their studies at other educational establishments (usually courses of short duration), and (*iii*) those who have not pursued their studies at a school or other educational establishment recognized by the Central Office of Statistics.

TABLE 8. PUPILS LEAVING GENERAL GYMNASIA, ACCORDING TO FURTHER STUDIES AND OCCUPATIONS OF FATHERS

	AT UNIVERSITY OR EQUIVALENT	AT OTHER TYPE OF ESTABLISH.	NO FURTHER EDUCATION AT 1 OR 2	TOTAL
Agriculture and ancillary occupations	65.6	11.3	23.1	100
Elementary-school teachers	67.0	11.0	22.0	100
University graduates (not reported elsewhere)	74.3	4.9	20.8	100
Officers	56.8	16.9	26.3	100
General managers, wholesalers	62.0	9.3	28.7	100
Businessmen, commercial travellers, master artisans	62.4	12.1	25.5	100
Higher grade officials (without university degree); certain professions	66.9	9.1	24.0	100
Other officials	63.2	10.1	26.7	100
Manual workers	61.5	14.0	24.5	100

From Table 8 it will be seen that there can hardly any longer be said to be a socio-economic conditioned leakage between the *gymnasium* and further studies. Thus, three years after the *gymnasium,* approximately the same proportion of pupils from the different social environements had not continued their studies at any of the educational establishments included in the table. There is still, however, a more clear relation between socio-economic background and the type of further education chosen. Table 8 shows that only few young people whose fathers are university graduates choose other than a university education. This proportion is greatest among officers' sons, many of whom enter officers' training colleges. Young people from manual workers' homes — a group approximately the same size as that of young people from university graduates' homes — had the second largest share in those who went to educational establishments other than universities and the like. Here, as in so many other cases, young people from university graduates' and manual workers' homes follow rather different patterns in respect of education.

At the two points of transfer in the Swedish educational system, which will be the most important ones when the nine-year compulsory school has been fully established, the following can be observed : at the transfer from lower schools to *gymnasia* both the decision to attend *gymnasia* and the choice of the type of *gymnasium* vary with the socio-economic background. At the transfer from the *gymnasium* to the university and other higher educational establishments this relation is rather insignificant. There still exists such a relationship, however, when we are concerned with the choice between university and shorter types of further education, and also — which has not been stressed in this connection — in the choice of faculty at university level.

5. FACTORS EXPLAINING THE CHANGES IN THE SOCIO-ECONOMIC BACKGROUND

There has been a lively discussion also in Sweden of the factors determining the course of education of young people. In view of the circumstance that the socio-economic background of undergraduates still differs significantly from the general social structure of the total population, it has been asked what factors in the social environment cause this difference. In Sweden, as in other countries, it has always been stressed that we are concerned with a complicated combination of elements. It is difficult, if not impossible, to determine and evaluate their mutual importance. Three such factors have been emphasized more than others :

1. the aptitude of young people for studies, measured according to their achievements at school,
2. attitude of members of family to study,
3. the economic situation of the family.

The research work performed with the aim of assessing the significance of these different factors has not been particularly comprehensive. One of the most recent, and most interesting investigations is the one already mentioned, made in the spring of 1961 by the Institute of Education at Gothenburg University under the supervision of Professor Kjell Härnqvist. In this study, a sample of pupils in the classes immediately below *gymnasium* level were asked whether they intended to apply for entrance to the *gymnasium* or not. The pupils were given alternative replies. It is possible, on the basis of these replies, to obtain a certain picture of the significance the attitude and economic situation of parents may have on the decisions arrived at by pupils when faced with the choice of *gymnasium* studies. It is, as has been clearly shown in the earlier sections of this memorandum, the changes in the socio-economic background at this transfer point that are of vital importance.

It must be observed, when discussing the factors that may be expected to explain the changes in the socio-economic background in the educational system of Sweden, that it has been shown, also in Sweden, that there is connection between school results and the home environment. The reasons for this connection have also been debated, at times rather sharply. In some quarters it has been claimed that there are genetically conditioned differences between environments. In others, chiefly differences in material standards, cultural activities and social evaluations have been maintained to be decisive. As the standard of living rises, cultural activities are spread in wider and wider circles and social evaluations are modified, we must expect a successive elimination of this relation between school results and social environments.

These differences in school marks between young people from different social environments have long appeared most clearly in the elementary school, the compulsory school up to 1962. At this level, the social background of the pupils reflects in principle that of the whole population. After the transfer from the elementary school to the *real* school — a transfer point which will disappear as the nine-year compulsory school is introduced — the first socially correlated leakage has occurred. The differences in school marks between young people from different social environments still exists at the *real* school level, but to a much smaller degree than in the elementary school. At the *gymnasium* level, finally, these differences in marks seem to have been eliminated.

It is interesting to note how young people with the same marks but from different social environments differ with reference to their studies. This is illustrated in Table 9, which covers some of the pupils in classes immediately below the *gymnasium*, studied in the Gothenburg investigation, i.e. pupils from homes where the father may be assigned to status group I, and where one or both parents have a higher education than the elementary school, and pupils from homes where the father belongs to status group III and neither of the parents has more than an elementary school education[1]. The pupils who intended to attend the *gymnasium* have been arranged in four groups according to school marks. Those with the lowest marks have been assigned to groups 1 and 2, while those with the highest are in groups 3 and 4.

TABLE 9. PUPILS IN CLASSES IMMEDIATELY BELOW THE GYMNASIUM IN THE SPRING OF 1961 FROM STATUS GROUPS I AND III, DISTRIBUTED ACCORDING TO SEX AND MARKS GROUPS

In percentage.

	1	2	3	4
Status group I :				
M	67	77	95	98
F	23	63	84	98
Status group III :				
M	19	30	56	78
F	18	14	33	57

Table 9 reveals fairly clear differences in educational plans between young people with the same marks but from different social environments. More than 80 per cent of the boys and girls from status group I with high marks — groups 3 and 4 — intended to continue their studies at the *gymnasium*. Among children from status group III, on the other hand, only the boys with the highest marks — group 4 — reached 78 per cent. Only half the boys from status group III belonging to group 3 intended studying at the *gymnasium,* and only one-third of the girls in the same group. Among the young people with the lowest marks there were still 67 per cent of the boys from status group I who considered continuing their studies at the *gymnasium*. Girls with the same background and marks intended studying further to about the same modest degree as pupils from status group III with low marks.

Thus it appears that even when young people with the same marks but from different social environments are compared, they differ from each other with respect to their future education. In other words, there are factors other than school marks that determine whether children from different status groups shall continue their studies at *gymnasia*.

As mentioned earlier, the attitude of parents to further education is assumed to be such a factor. An assumption often made in the Swedish debate of these problems is that people who have themselves enjoyed a higher education, or who work in surroundings where higher education is the normal state of affairs, have a different attitude to their children's studies than those who have had no such education or who work in different surroundings. In the former case it is natural that the children, it they are sufficently gifted, pursue some kind of higher studies. In the latter case the attitude may be more varied.

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[1] Table 9 is based on statistical material provided direct to the committee by K. Härnqvist. Cf. *Vägen genom gymnasiet,* Chapter 8.

This rather natural relation between social environment and attitude towards children's education is confirmed by the Gothenburg investigation mentioned earlier[1]. One reason for continuing studies at the *gymnasium*, suggested by the leaders of the Gothenburg study, on which the pupils in classes immediately below the *gymnasium* had to express an opinion was this : it has always gone without saying that I should apply for entrance to the *gymnasium*. It is characteristic that more than 40 per cent of the boys from status group I, who had good marks and who intended to enter the *gymnasium*, gave this as one of the reasons why they intended to continue their studies, as compared with only one-tenth of the boys from status group III with the same marks. Another reason suggested by the leaders of the study shows even more clearly the attitude of parents : my parents want me to study, and I agree with them in this respect. The frequency of this reason also varied with social background. Again more than 40 per cent of the boys from status group I with good marks declared that their parents wished them to go on to the *gymnasium*, as against less than one-third of the boys from status group III with the same marks.

It may be of special interest to see how far the reasons for not going to the *gymnasium* varied with social background. In this case, however, it is impossible to compare young people with good marks from different social environments with each other ; the great majority of the young people with good marks but who did not intend continuing their studies at the *gymnasium*, were from the lower status groups. Some of the reasons given for this decision suggested by the leaders of the investigation reflected, as did decisions to continue studying, the attitude of the home. Almost one-third of the boys from status group III with good marks, who did not intend entering the *gymnasium*, stated that there had never been any intention of their studying further. Only 8 per cent of these boys and 4 per cent of the girls with correspondingly high marks and from the same status group said that their parents had expressed a wish for them to go to the *gymnasium*, but that they themselves had decided not to do so. The most common reason why these young people with good marks had decided not to pursue their studies further was, apart from a too pessimistic view of their own school results, that they thought practical work more attractive than theoretical studies, and that they thought it would be nice to begin working at once and earning money. This attitude may be said to reflect the attitude and evaluations of the home to a certain extent.

It is also worth noting that the persons who have given the young people concerned in the Gothenburg study advice and instructions in the choice of education have varied with the social background of the pupils. Thus nearly half of the boys in status group I with good marks, and interested in studying at the *gymnasium*, stated that they had been given the most valuable advice with regard to the future studies by their parents, as compared with only slightly more than one-tenth of the boys from status group III with similar marks. These boys from status group III, on the contrary, often said that they had got the best advice in their choice of studies from their teachers, especially the vocational adviser.

These choice situations have clearly been regarded as less difficult for young people from status group I, as has been gathered indirectly from the replies to questions reported here, than for those from status group III. The former have, more often than the latter, grown up in an environment in which it has been considered self-evident to continue at the *gymnasium*, and the former have, been urged by their parents, more often than the latter, to continue studying, and have also been given valuable advice by the parents.

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[1] The information given in the following about the reasons for beginning/not beginning *gymnasium* studies is based on statistical material presented direct to the committee by K. Härnqvist. Cf. *Vägen genom gymnasium.*

The influence parents may have on their children's plans need not be based only on the attitude these parents have to higher education, but may also be connected with the economic situation of the home. Parents who consider themselves unable to give their gifted children any economic support — though they may not be opposed to higher education — may feel inclined to advise their children not to pursue their studies further. Children faced with the choice of beginning work at once or contracting debts in connection with higher studies may be tempted to choose the former alternative, even though they are not indifferent or adverse to higher education.

Nowadays, higher education is free in principle in Sweden. Teachers' salaries, buildings, teaching materials, etc., are paid out of public funds, not by pupils. But the costs of students' board and lodging had, as late as the beginning of the 1960's, still to be met to a considerable extent by the pupils themselves, their parents, or by loans. It should be observed, however, that State assistance in the form of grants has increased greatly since the war. This expansion has, however, been less noticeable in the *gymnasium* than at university level.

It must be assumed — although no direct investigations have been made — that the great expansion of State study assistance since the war has enticed many gifted young people from economically poor circumstances to continue their studies. It is clear that, as the number of scholarships granted to undergraduates has increased, the socially conditioned leakage between the *gymnasium* and the university has declined until it has now been almost eliminated, It must also be presumed, however, as confirmed to a certain extent by the Gothenburg study, that leakage of gifted pupils between the compulsory school and the *gymnasium* that still takes place is also related to economically conditioned decisions in the home.

One of the reasons for beginning at the *gymnasium* that the Gothenburg study presented to interested young people was : My parents can afford to allow me to continue my studies. It is characteristic that half the young people from status group I with good marks stated that this was the case, while the same reply was given by only one-fourth of the young people from status group III with similar high marks. More interesting and more important than this, however, is to see how far the economic situation of the parents is regarded as a direct obstacle in the way of further education. One reason for not beginning at a *gymnasium,* which those who did not intend to pursue higher studies had to consider, was the following : My parents cannot afford to allow me to say at school any longer. No fewer than 25 per cent of the young people from status group III with good marks claimed that this was the case. Thus no less than every fourth person of those we are interested in here — young people from status group III, who, in spite of high marks do not go on to the *gymnasium* — seems to be influenced in his decision by the economic situation of his parents.

6. STATE POLICY

Thus it is on the background of facts and reasoning of the type discussed here from which the State authorities worked out a policy whose aim was mentioned in the introduction : to provide each young person interested in, and capable of a higher education the possibility of pursing such activities.

It was stated in the previous section that school marks vary with social background, and that the variations are closely related to differences in the home environment. Young people who grow up in homes without traditions of study and without interest in study are often handicapped in their school work in relation to those who grow up in an environment more favourable towards studies. One of the clearly expressed reasons for the nine-year compulsory school decided on by Parliament in the spring of 1962 is to remove this handicap. This is to be achieved by keeping classes together in principle up to the ninth year at school ; some, though not extensive, differentiation takes place in the seventh and eighth years at school. With the increase in the duration of compulsory attendance at school to nine years, and the fact that no organizational division of pupils occurs before the ninth school year, pupils from study-oriented homes are, for a longer time, given the same tuition as pupils from a less favoured environment. It is assumed that pupils from a home environment less interested in study will in this way be given some compensation for their socially conditioned handicap in their work at school.

It was also maintained in the previous section that the attitude of parents to higher studies influences young people faced with the alternatives of higher studies or work. It can hardly be claimed that the State has at its disposal any direct means of changing parents' attitudes. On the other hand, it may be said that several of the State measures in the field of education influence this factor indirectly. The extension of compulsory attendance at school, the expansion of the network of schools, the increase in State assistance for education, as well as several other reforms, contribute, together with a rising standard of living and greater cultural activity, to a growing interest in study.

Finally, it was also pointed out in the previous section that the economic situation in the parents' home must still be regarded as influencing young people in their choice of studies. This handicap is, however, the one the authorities have the best prospects of removing. The way to do this is, as already mentioned, by study aid.

The State committee mentioned in the introduction, which collected the material dealing with the process of selection in the educational system, began its work on the assumption that there was still much socio-economically and geographically correlated leakage at the transfer from *gymnasium* studies to the universities and equivalent educational institutions. This assumption proved to be exaggerated. Now the socio-economically and geographically correlated leakage in the Swedish educational system is before the *gymnasium,* not after it ; another finding is that the choice of education after the *gymnasium* is still socio-economically correlated.

These new facts about the structure of the process of selection influenced the recommendations regarding the design of the State study assistance presented by the two committees. These committees proposed, among other things, that State study help at *gymnasium* level should be augmented considerably, at the same time as differences in the structure of study assistance at *post-gymnasium* level were to be eliminated. The main points of the proposals were accepted by the Government and by a large majority in Parliament. In other words, this is a concrete example from the Swedish educational policy of close collaboration between the results of social science research and the framing of State policy.

IX

REGIONAL INEQUALITIES OF OPPORTUNITY IN FRENCH EDUCATION AND THE MEASURES DESIGNED TO REDUCE THEM

by

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The purpose of educational planning in France, as it emerges from the proceedings of the " Commission de l'Equipement Scolaire, Universitaire et Sportif ", with particular reference to the IVth Plan, is to[1] :

i) provide the financial resources during the course of the plan period required for the consolidation of educational structures, and the laying down of new ones necessitated by the reforms of the different levels of education ;

ii) study measures of an administrative, financial or technical nature which will expedite such investment action ;

iii) study teaching-staff requirements at the various levels.

It should accordingly be pointed out that this planning is not concerned with forecasts of current expenditure or solutions to purely pedagogical problems.

The main object of the first two educational plans (corresponding to the Second and Third Economic and Social Development Plans) was to comply with the increasing demand for education, particularly at the early secondary stage. In calculating increased numbers at national as well as at academic district[2] level, account was primarily taken of extrapolations of recorded school-attendance rates, adjusted on occasion to allow for the specific nature of technical education. Regional inequalities of opportunity in secondary education may have decreased spontaneously, but there was no systematic regionalisation policy.

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[1] Rapport Général de la Commission de l'Equipement Scolaire, Universitaire et Sportif, IV^{e} Plan de Développement économique et social (1962-1965), Paris, Imprimerie Nationale, 1961.

[2] The academic district (académie) is the regional administrative unit responsible for education in a given number of departments (the department is an administrative territorial division ; France was divided into 90 departments until recently). — The figure which is used in this study — 5 new departments have since been created in the Paris region.

In fact, although it works from data supplied at academic district level[1], the Commission du plan leaves the job of planning the establishment of secondary schools to specialised services of the Ministry of National Education. All the Commission du Plan does is to assess the total amount of appropriations to be invested in each type of establishment. The Commission du Plan Scolaire, jointly with the " Comité des Plans régionaux " under the Commissariat du Plan, however, advises on building schools of higher education.

INEQUALITIES OF OPPORTUNITY IN SECONDARY EDUCATION

Entry into secondary education

There are several indicators for measuring regional inequalities of opportunity in secondary education. The rate of entry into secondary education can be used to determine how much is done to seek out aptitudes ; it is calculated from the ratio of the total number of pupils in the " 6th " (1st year of secondary education : 11-12 years) to the total number in the second year of the " cours moyen " during the preceding school years (representing the fifth year of primary education : 10-11 years).

At " programme area " level[2] for a national average of 41.8 per cent in 1959, the entry rate in the Paris area was 62.2 per cent (the highest), while the Picardy area had the lowest rate : 25.8 per cent[3].

Within each " programme area " the rate of entry can differ according to its constituent departments. Thus in the " Midi-Pyrénées " area, whose rate of entry is higher than the national average (44.1 per cent), one department has a rate of 53.4 per cent, while in another it is only 28.1 per cent. Out of the 90 French departments 38 have a rate of entry above the national average, and the difference between the highest (Seine : 72.6 per cent) and the lowest (Mayenne : 22 per cent) is more than threefold[4]. Within each department the entry rate varies according to the cantons[5], both urban and rural[6]. In 1962 the rate of entry into the 6th according to population of area of residence and type of school was as shown in Table 1.

It will be observed that the rate of entry is under 50 per cent in the rural areas, where pupils continue their compulsory schooling in the terminal classes of primary school. The highest rate is in the Paris conurbation, where more pupils attend the CEG's than the traditional lycées (the percentage of entry into the CEG's is much the same as that recorded in towns of 5,000 to 10,000 inhabitants. Towns of 10.000 to 50,000 inhabitants come second, but the lycées have the greater number of pupils. The lycée is usually to be found in medium-sized towns, while those of fewer than 10,000 inhabitants often have only a CEG. In the Paris area many CEG's have been established in order to take account of social patterns in the Paris suburbs.

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[1] See definition in footnote (2), page 253.

[2] France is divided into 21 economic areas, known as " programme areas ", with a " regional action programme " (economic and social development plan) established for each. The demarcation of these areas is shown in Annex III (each area comprises a varying number of departments).

[3] See Table — Annex I, column 2.

[4] For detailed statistics see *Informations statistiques*, No. 29-30, May-June, 1961 (Ministry of National Education, General Secretariat, Service Central des Statistiques et de la Conjoncture).

[5] The canton is a division of a department. It covers a small area.

[6] See in this connection the figures quoted by J. Ferrez in " Regional inequalities in educational opportunity ", *Ability and educational opportunity*, OECD, 1962.

Another indicator of inequality of regional access is the school attendance rate in the " 6th " (the first year of general secondary education). This rate[1] was determined by taking the ratio of school attendance in the 6th to the corresponding school-age population, i.e. the arithmetical mean of the population in the 11-12 age group, to which most pupils belong in approximately equal proportions. At this level the rate shows the same imbalance of school attendance by geographical area as in the preceding case. The higher attendance rate recorded in the southern regions of France is partly accounted for by historical and cultural factors. In 1962/63 the highest attendance rate at departmental level was 85 per cent and the lowest 35.8 per cent, against a national average of 56.2 per cent.

TABLE 1. PERCENTAGE OF PUPILS ENTERING GENERAL SECONDARY EDUCATION AT 11-12 YEARS ACCORDING TO POPULATION OF AREA OF RESIDENCE

In percentage.

AREA OF RESIDENCE	" COLLÈGES D'ENSEIGNEMENT GÉNÉRAL "[1]	LYCÉES	TOTAL FOR " 6th "
Rural cantons	28	14	42
Less than 5,000 inhabitants	40	18	58
5,000 to 10,000 inhabitants	38	19	57
10,000 to 50,000 inhabitants	25	42	67
50,000 to 200,000 inhabitants	17	46	63
More than 200,000 inhabitants	22	42	64
Paris conurbation	39	33	72
Total	28	27	55

1. The " collège d'enseignement général " is a school in the first cycle of general secondary education; during the first four years of general secondary education, it has the a so-called " short " curriculum of the same level as the " modern " sections of the traditional " lycées. " (Some " collèges " also have a curriculum on the lines of the classical section); in contrast to the traditional lycées, the teaching staff consists of primary teachers who have had for the most of them special training.

The creation of comprehensive schools in the first cycle, which are intended to receive all pupils after completion of their five years of primary education, resulted in a modification of the structure of " collèges d'enseignement général " (see note 2 page 265 and page 267).

Sources : A. Girard, H. Bastide, G. Pourcher, " Enquête Nationale sur l'entrée en sixième et la démocratisation de l'enseignement ", Population, January-March 1963, No. 1.

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[1] See Table — Annex I, column (*b*), for programme areas. For rate differentials by department reference may be made to : " Comparaison des effectifs et des taux de scolarisation en classe de 6ᵉ en 1954/55 et 1962/63 ", Service Central des Statistiques et de la Conjoncture, Ministère de l'Education Nationale, Secretariat Général, Doc, No. 1333.

School attendance throughout secondary education

The total attendance rate in secondary education is obtained by referring the number of pupils in all institutions providing secondary education[1] to the 11 to 17 age groups. Computation of this rate was one of the methods used to allocate investment between academies[2] so that regional inequalities of access at this level might be reduced[3]. But the rate is less accurate than the others owing to the size of the age group (which may or may not be subject to the compulsory 14-year age limit of school attendance), and the pupils concerned come from institutions of varying types and levels.

Within a department the rate varies for each canton. A study of the Haute-Vienne department undertaken in 1959[4] shows that the existence or absence of a secondary school determined the attendance rate, which was 37 per cent in cantons with a lycée or " collège d'enseignement général " and 15 per cent in those without. The rate for a rural canton which has a CEG is 23 per cent, as against 10.5 per cent in such a canton with only terminal primary classes. The attendance rate by sex may vary if the existing institution caters for one sex only ; in one canton a rate of 29 per cent has thus been recorded for girls owing to the existence of a girls' " lycée " (the rate for boys was 14.5 per cent). The cantonal attendance rate decreases with the distance away from a major urban area equipped with secondary schools. Thus, 17 km from Limoges, the rate is 25 per cent, whereas it falls to 10.5 per cent at 40 km. Inside the canton the rate is high for communes which have a secondary school, and much lower for those without : in one commune which has a boys' " lycée " the male attendance rate is 68 per cent, and drops to an average 18 per cent in the other communes of the canton. These figures show how important a factor the distance of the child's home from the nearest school can be, and explains the regional policy now being applied, which is the optimum dispersion of establishments combined with school transportation facilities.

But the location factor alone does not influence school attendance. To such geographical inequalities must be added such other factors as the pupils' social background, the attitude of parents and teachers towards the various types of education, etc. The statistics show that secondary-school attendance rates below the national average do not occur in departments with scattered residence areas or a primarily farm population. The interaction of various " social factors " therefore suggests that inequalities of opportunity cannot be corrected simply by improving the geographical distribution of schools.

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[1] This consists of " long " secondary courses (general secondary course given in the " classical " and " modern " lycées ; technical secondary course given in the technical lycées), and of " short " secondary courses (general secondary courses given in the " Collèges d'enseignement général ", short 3-year technical course given in the " collèges d'enseignement technique " or CET ; from age 14 or 15), and hence excluding the terminal classes of primary school.

[2] See page 273 below.

[3] See Table — Annex I, column (*c*) ; for departments, see *Informations statistiques*, No. 67, February 1965.

[4] Study mentioned in " La planification de l'enseignement en France ", *Notes et Etudes Documentaires*, 9th November, 1962, No. 2935 (La Documentation Française).

Interaction of location factors and the pupils' social background

Three types of inequalities may be noted in secondary-school attendance. Table 1 (last column) shows the effect of urbanisation on attendance rates upon entry into general secondary education. Table 2 (last column) indicates the influence of social background upon reaching the 6th and Table 3 the social background of pupils in secondary and university higher education according to the type of establishment attended.

The evidence from Tables 1, 2 and 3 is that the social and occupational background of the parents must be added to the purely geographical factor, and that social disparities increase with the level of education (as shown in Table 3). The breakdown of general-secondary institutions into classical and modern lycées and " collèges d'enseignement général " shows that the latter are mainly located in rural districts and attended by pupils from lower-income categories, particularly in the Paris area (generally the CEG's are attached to primary schools)[1]. In recent years it is the CEG's which have largely enabled greater numbers of pupils to be admitted into secondary education. Thus, while in 1954/1955 the CEG's took on 38.7 per cent of pupils of the 6th, in 1962/1963 the rate went up to 52.2 per cent. A third factor of inequality has accordingly been alleged, since this type of institution cannot in fact entirely be likened to a lycée.

TABLE 2. PERCENTAGE OF PUPILS 11 TO 12 YEARS OLD ENTERING GENERAL SECONDARY EDUCATION, ACCORDING TO PARENTAL BACKGROUND

In percentage.

OCCUPATIONS OF PARENTS	COLLÈGE D'ENSEIGNEMENT GÉNÉRAL	LYCÉE	TOTAL IN 6TH
None and undefined	23	14	37
Farm workers	21	11	32
Farm owners	24	16	40
Industrial workers	29	16	45
Artisans and retail merchants	34	32	66
Office workers	34	33	67
Middle-level personnel	29	55	84
Liberal professions	23	67	90
Top-level personnel	19	75	94
Total	28	27	55

Source : See Table I.

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[1] A survey shows that in the Paris area admission into a lycée requires a change of establishment (except in 10 per cent of cases), while one out of two entries into a CEG (48 per cent) impose no change of institution. P. Clerc : " La famille et l'orientation scolaire au niveau de la sixième. Enquête de juin 1963 dans l'agglomération parisienne ". *Population,* Aug. - Sept. 1964, No. 4. The above-mentioned survey of the Haute-Vienne department shows the same situation in Limoges : pupils from elementary schools remain in the CEG's attached to such establishments instead of entering a lycée ; in the cantons of the Haute-Vienne which have CEG's, an average of 7 per cent enter lycées while 30 per cent stay in the CEG's.

TABLE 3. SOCIAL BACKGROUND OF SECONDARY-SCHOOL PUPILS AND STUDENTS AT UNIVERSITIES
1961-1962

TYPE OF SCHOOL	FARM OWNERS	FARM WORKERS	HEADS OF COMMERCIAL OR INDUSTRIAL ENTERPRISES			LIBERAL PROFESSIONS AND TOP-LEVEL PERSONNEL	MIDDLE-LEVEL PERSONNEL	EMPLOYEES IN INDUSTRY AND COMMERCE	INDUSTRIAL WORKERS	HOUSEHOLD HELP	PERSONS WITHOUT OCCUPATION	OTHER	TOTAL
			INDUSTRY	COMMERCE	CRAFTS								
Classicial and modern " lycées "[1] ...	6.5	1.2	2.1	9.2	5.3	17.1	15.9	17.0	15.9	1.2	2.5	6.1	100
Technical (vocational) " lycées " and similar institutions	6.0	1.7	1.7	7.4	6.1	5.7	11.1	17.4	32.5	2.0	3.4	5.0	100
" Collèges d'enseignement général ".	10.0	2.7	0.8	7.4	6.3	2.4	10.6	16.7	35.0	1.8	1.8	4.5	100
" Collèges d'enseignement technique "	6.0	3.9	0.5	3.8	4.6	1.4	5.6	11.9	49.9	3.1	3.9	5.4	100
Higher education in universities (facultíes)	5.6	0.6	4.0	9.7	3.9	28.5	17.8	8.0	6.4	0.9	7.0	7.6	100
Percentage of total active population (1962)	15.7	4.3	10.4			4.0	7.8	12.6	36.7	5.4	3.1		100

[1] Excluding students in classes preparing for the " Grandes Ecoles ".

Source : *Informations statistiques*, No. 60-61, June-July 1964.

Until recently this type of education was primarily regarded as a short general course leading to the " brevet d'étude de premier cycle " (at age 15 or 16) and to government-service examinations, including the one for admission into training colleges for primary teachers. Quite apart from the question of teacher training (the CEG teachers are primary teachers having generally received special instruction), it may be pointed out that until 1962 part of the curriculum for the classes of 4th and 3rd had not yet been officially aligned with the lycée courses ; the choice of course offered by the CEG's, was far smaller than in the lycées. Thus the CEG's accounted for only 15.6 per cent of pupils in the classical sections of the 5th in all public institutions during 1963/64 (the rate in the 4th and 3rd was 2.1 per cent)[1]. Where foreign languages are concerned, the " modern — one language " section was the main course open to students ; although a second (modern or dead) language is chosen in the lycées upon entering the 4th (at the beginning of the third year of general secondary education), the percentage of students who studied a second foreign language in the (public) CEG's during 1962/63 was 8.5 (and 5.4 in 1958/59)[2]. The growing numbers of pupils who decide to enter the 2nd cycle of secondary education in the lycées are hardly able to select the section they want, owing to the course they took during the first cycle. Hence they usually enrol in the " modern — one language " section or technical section. An additional aspect is that the CEG's able to provide classical courses and modern-languages courses are usually located in urban areas. An official commission has accordingly found, despite the reforms of 1959, instituted in the first cycle of secondary education (which are examined below) " a danger that basic inequality might persist between pupils with a rural background and those of urban origin "[3].

REGIONAL INEQUALITIES OF OPPORTUNITY IN HIGHER EDUCATION

a) *Higher education in the university*

Inequalities of opportunity in university (faculty) education so far have been assessed according to the ratio of attendance as compared with the 20-to-24 age group. This indicator is not altogether satisfactory, since the average time spent in higher education is not accurately known and since only 55 per cent of students in university faculties belong to the 20-to-24 age group (21 per cent are younger and 24 per cent are older)[4]. But the rate can be used to analyse faculty attendance[5] according to the students' geographical origin. The gains marked by the areas showing the highest attendance rate in secondary education are reflected at university level. The highest rates occur in the southern half of the country. Reckoned between areas, the ratio of the lowest to the highest rate is 1:3. Inequality is greater at the scale of all 90 departments, when the ratio reaches 1:5, as against 1 : 2.5 in secondary education. An examination of the geographical location of universities in 1960[1] shows inequalities between departments and between regions, some of which had no universities at the time. The vacuum around the Paris area is an indication of its centralising role at the time.

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[1] *Informations statistiques*, No. 63-64, Oct.-Nov. 1964.

[2] *Informations statistiques*, No. 23, Nov. 1960, and No. 59, May 1964.

[3] *Commission d'étude des problèmes de formation et de promotion sociale*, Feb. 1964, Ministry of State for Administrative Reform (unpublished report reviewed in *Le Monde*, 25th March, 1964).

[4] Numbers of French students registered in universities as at 30th June, 1962, compared with population in the 20-to-24 age group (by departments), *Ministry of National Education*, Statistical Service, Doc. No. 1142.

[5] See Table in Annex, column (*d*).

b) *Location of institutions of higher education other than university faculties*

Attendance rates in higher education by departments and regions as reckoned above are underestimated, since they do not include students who while not enrolled in university faculties continue their education beyond the " baccalauréat " (after age 18 or thereabouts), and the statistics do not show their region of origin. Four types of institutions are open to such students, consisting (in 1962/63) of :

1. Sections preparing for various schools of higher technical education (about 25,000 students) ;
2. Advanced technical sections in the technical lycées and in schools of higher technical education (about 10,000 students) ;
3. Vocational training sections (beyond the " baccalauréat " : at age 18) in training colleges preparing primary teachers (about 10,000 students) ;
4. Schools of higher technical education[2] (about 58,000 students).

TABLE 4. REGIONAL DISTRIBUTION OF ENGINEERING GRADUATES TRAINED IN 1961

	NATIONAL EDUCATION EX-DIRECTORATE OF TRAINING[1]		OTHER MINISTRIES	PRIVATE INSTITUTIONS	TOTAL GRADUATES		% TOTAL POPULATION 1962
	HIGHER	TECHNICAL			NUMBER	%	
Eastern France	1,065	695	435	505	2,700	42	45
Western France ...	420	110	245	—	775	12	37
Paris area	105	625	900	1,315	2,945	46	18
	1,590	1,430	1,580	1,820	6,420	100	100

1. This subdivision no longer exists. A single directorate is now responsible for courses in higher education organised by the Ministry of National Education.

Source : Report on Grandes Ecoles, *op. cit.* page 13.

The uneven distribution of institutions in the first two categories listed above, despite the lesser decentralisation of such types of training, is indirectly shown by the percentage of students attending these institutions in the Paris area. This particular region, which contained but 18 per cent of the population in 1962 (see Table 4), in 1963/64 accounted (in public education) for 44.1 per cent of the total numbers of students attending classes preparing for the various institutions of higher technical education, and for 30.5 per cent of all students in the advanced technical sections of lycées. Western France is particularly lacking in facilities for these two types of training.

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[1] See Annex II.

[2] Including those known as " grandes écoles " ; 39 per cent of such students are also registered at university faculties and are therefore included in statistics covering higher education in universities ; for the three preceding categories it has not so far been possible to ascertain percentages likewise registered at universities.

Of the institutions providing higher technical education, numbers in colleges of engineering were selected as the subject for more particular study by a Government Commission[1], which attempted to determine the distributional pattern of engineering graduates trained in 1961 by three major regions : East, West, and the Paris area[2].

A comparison of the total number of graduates in 1961 with the 1962 population shows a certain amount of top-heaviness in the Paris area, which trains nearly half of all engineering graduates.

The Commission adds that " the reputation of schools in the Paris area might well notably increase the quantitative figure of 46 per cent, if it were weighted to take account of the prestige attaching to the degrees they award ". The West again suffers by comparison (12 per cent of the numbers trained) : it moreover has no private engineering schools, which are all centred in or around Paris.

Effects of such inequalities on regional development

Studies undertaken under the regional plans have gradually enabled the influence and role of education in regional development to be defined. It has now become evident that the premise " irrationality of the infrastructure alters cost relationships in the various regions and distorts entrepreneurial decisions "[3] is particularly relevant to education at a time when the selection of sites for industry is increasingly dependent on the availability of skilled manpower. The General Report of the Fourth Plan's Manpower Commission[4], in discussing criticisms of a training policy as determined by the evidence of present needs alone, concludes that " it is not wasteful from the aspect of the entire national community to develop (technical) education in some specific (Breton) department, without regard for the area's present limited requirements in skilled and technical manpower ". The first report of the " Commission Nationale de l'Aménagement du Territoire "[5] reached a similar conclusion : " The low school attendance in rural areas, which is partly due to the inadequacy of their school facilities, has just as serious an impact on the particular region's own development, whether in agriculture or other sectors, as on the development of other regions which receive workers with a limited general education and little or no vocational training migrating from such areas ". True, this argument requires some qualification : the pattern does not apply to such districts with a strong cultural tradition as those of the South of France, whose migrant manpower is much more comprehensively trained. The sum of these remarks however not only applies to facilities for technical education (short or long), and hence to the various types of advanced courses, but to general basic education, whose lack impairs the effectiveness of the more specialised kind. As matters now stand the rate of technical progress has shown the need for longer basic education and for a broadly comprehensive type of instruction which would leave the way clear for job retraining and rehabilitation. But there can be no point in extending education after entry into secondary school unless differences between the urban and rural population and between " the small and large town, the city and the surrounding suburbs " are reduced so far as the location of the various types of establishment are concerned.

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[1] A report entitled " Les conditions de développement, de recrutement, de fonctionnement et de localisation des Grandes Ecoles en France " appears in Recueils et Monographies, No. 47, *La Documentation Française.*

[2] The boundaries of these three regions are given in Annex II.

[3] P. Bauchet : *La Planification française : Quinze ans d'expérience,* Editions du Seuil, Paris, 1962.

[4] Commissariat Général du Plan, Paris, Imprimerie Nationale, 1961.

[5] Commissariat Général du Plan d'Equipement et de la Productivité, 1964.

Measures designed to reduce inequalities of opportunity in secondary education

Reform of public education (1959)

At the time of the Küngälv Conference on " Ability and Educational Opportunity ", the French Ministry of Education had just launched its reform of secondary education, following the decrees of 6th January, 1959[1]. The primary object of the reform was to correct inequalities mainly ascribed to such concomitant factors as the distance of the child's home to the nearest secondary school, attitudes of teachers and families to various types of education, etc.

The reform measures designed to " democratise " educational opportunities at secondary level may be summarised as follows :

- extension of school-leaving age from 14 to 16 ;
- compulsory attendance by the majority of pupils, after the elementary five-year primary course (i.e. at age 11), in a two-year observational cycle designed to provide guidance on the basis of a " thorough observation of abilities "(children whose talents were rapidly confirmed might almost immediately enter the course selected while " observation and guidance " continued for the others) ;
- creation of " bridge " courses enabling pupils whose abilities might be later confirmed to enter the stream regarded as appropriate ;
- at the end of the observational cycle (at age 14), orientation of pupils towards general vocational, or terminal course ;
- practical terminal courses for students whose aptitudes do not permit them to enter the " cycle d'observation ".

This reform meant that the structure and location of the various institutions had to be replanned, as well as added school-transport and canteen facilities and a generalised use of evening-study periods so that homework might be obviated for those living far away. A change of establishment was thus to occur after the guidance advice was given (which the pupils might reject provided they took an examination in the subjects they were advised against) : the best first-year (6th : age 11-12) and second-year (5th : 12-13) secondary-school pupils of the " collèges d'enseignement général " (CEG's) were to enter the lycées ; pupils showing little aptitude for the abstract type of lycée teaching were to take either the short general course during the last two years in the CEG's or the short vocational course given by the " collèges d'enseignement technique " (CET's) ; pupils who finally proved more responsive to practical rather than theoretical teaching were to follow a terminal course, which while continuing their general education would prepare them for their working lives.

To this end, and especially to counter regional inequalities of educational opportunity, the observational cycle (5th and 6th) was " scattered " on a maximum geographical scale, particularly so that families might be spared the inconvenience of the boarding system, although the recuitment area might not number less than 5,000 inhabitants Since the scattering scheme designed to cover the initial years of general secondary education was largely to take place in the " collèges d'enseignement général " or in classes providing similar courses, the arrangement was that teachers of classical or language subjects should be seconded from a neighbouring establishment to help in " uncovering ability " and in " promoting the pupil's rapid orientation ".

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[1] See " La Réforme de l'Enseignement ", Special 1960 Issue, *Dossiers documentaires,* Ministry of National Education, Institut de Pédagogie nationale.

Application of the 1959 reform called for the preparation of a " carte scolaire "[1] ruled by the following principles :

— better geographical distribution of schools,
— juxtaposition of courses at the same educational level,
— school transport facilities for children in rural districts.

Following completion of the " carte scolaire ", the actual expenditure to be incurred for national (particularly secondary) education under the " Plan de Modernisation et d'Equipement " was computed. It will thus be noted that the Fourth " Plan d'Equipement Scolaire, Universitaire et Sportif " as drawn up in 1960 was based on the decisions stemming from the 1959 educational reform.

Changes to the 1959 educational reform programme

Four years after the reform went into effect, the French Government decided that it needed revision. Not only were opportunities for secondary education broadened, but the creation of a (four-year) initial cycle was supplemented by a replanned second cycle and a restructuration of higher education.

Reasons for the change

The evidence showed that in spite of real improvements in attendance at the 6th and 5th levels, recruitment of pupils after the observational period was still affected by such factors as social origin in the towns and geographical origin in rural districts. The re-assignments to another establishment at the end of the observational period have not been numerous. Guidance advice was countered either by the compartmentation of schools or by other factors due to premature orientation. What is more, from the pedagogic point of view, it is questionable whether the very wide proliferation of the groups of observation could be very effective : lack of material resources, and shortage of personnel made it difficult to guarantee a good education at the second level.

The result was that the better pupils of the CEG's, with rare exceptions, did not transfer to the lycées, and that the lycée pupils least able to grasp abstract teaching did not enter the CEG's or CET's. In the lycées, in order to comply with the wishes of families, the various sections were set up as soon as the pupils had entered the 6th, whereas the reform plan proposed a three-month period of observation before choice of the " classical " or " modern " section. The CEG's held on to their best students, either to present them as candidates for the entrance examination into normal schools, or because the lower-income families were reluctant to incur the greater expense of enrolling their children in the long lycée courses (in many CEG's schoolbooks and supplies are free). Families who had entered their children in the " classical " or " modern " lycée courses also showed hesitation when it came to enrolling them not only in the CEG's but in the technical lycées or CET's, which accordingly retained their previous social character, determined chiefly by the presence of pupils from lower-income groups.

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[1] See Ministerial Circular of 17th May, 1960 (and instructions regarding preparation of the Fourth Plan : School Investment - Schools).

From the strictly pedagogical aspect, it became evident that guidance (after two years of secondary education) was given too early, which meant overhasty specialisation ultimately difficult to correct whenever ability in some other stream was discovered later. Vocational training moreover now requires a more thorough basic education owing to the speedier rate of technical progress. As for the instruction dispensed by the various teachers (elementary schoolteachers and teachers with the " certificat " or " agrégation ") the present consensus is that better results can be obtained if the pupils are combined into homogeneous groups according to type of aptitude ; but as institutions attended by the children were different, some pupils who should have been taught by the primary teachers attended classes under highly specialised instructors, and vice versa. The consequences were of course by no means negligible whenever transfers occurred.

Revision of 1959 reform

The operational difficulties of the scheme devised to orient pupils towards the long or short courses at the end of the 2-year observational cycle led to the adoption of the following measures under a decree of 4th April, 1963[1] :

- primary education will be given to children from 6 to 11, the consequence of which will be the final suppression of the terminal primary classes (11 to 14 years old) ;
- all the children will enter first cycle of secondary education, the concept of an observational and guidance cycle (6th and 5th) was replaced by that of a first cycle (6th, 5th, 4th and 3rd), during which guidance and observation are to be continuous[2] ;
- the first cycle of secondary education is to be organised in comprehensive institutions : in scattered areas in the CEG's, and elsewhere in CES's (" collèges d'enseignement secondaire ") ;
- the measure raising the school-leaving age to 16 years was retained (it cannot be fully applied before 1972[3] in view of the new building proposed under a *carte scolaire* based on data other than the 1960 figures) ;
- the first main guidance threshold will therefore be crossed before entering the 2nd, 15-16 years, whether into the long (three-year) classical, modern or technical course, or into the short (two-year) vocational course. The provision requiring either acceptance of the

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[1] See Annex III, charts 1, 2, 3.

[2] At the start of the 1962/63 academic year the modern-course syllabi for the 4th and 3rd were standardized in all schools (lycées and CEG's) ; the short and long courses in the modern stream are accordingly identical up to the 2nd. (The " one-language modern section " will therefore disappear in the CEG's.)

[3] Reply of the Government's representative to questions asked in the Senate on 8th June, 1965.

guidance recommendation or else an examination, a measure instituted under the 1959 reform, has been maintained but carried over to the end of the first cycle, i.e. before entrance into the various sections of the 2nd ;

- the effect of these measures will be to postpone the (long and short) technical and vocational courses until after the first cycle, that is, after the 3rd (at 15 or 16), thus enabling special abilities to be better ascertained and longer general training to be provided.

The outstanding feature of the amended 1959 reform is the creation of the " collèges d'enseignement secondaire ". The CES is gradually to become the only first-cycle establishment (except in scattered population areas, where CEG's are to be set up)[1], enrolling students upon completion of elementary primary school and taking them in 4 years up to the second cycle. Such institutions comprise four sections : a classical section with teaching staff holding the " certificat ", a modern section II also taught by such staff, a modern section I, with educational methods resembling those of the CEG's in which instruction is given by " polyvalent " staff (primary teacher holding a special diploma) ; and a transfer section (2 years) then practical terminal (2 years) for the weaker pupils in which the masters will be " polyvalent " masters. A special training is organised for the " polyvalent " masters : it is given to primary teachers having taught at least five years. As such institutions will be widely scattered, pupils can be more easily reoriented on the spot. " Instruction will be provided for each by appropriate teaching methods according to his ability, without either handicapping the less gifted or holding the more talented students back ".

Application of the reform : the " carte scolaire "

National education at secondary level was made a part of the new schemes devised for regional development (primary and higher education already met such specific criteria of location) through the institution at the end of 1958 of a " Commission académique de la carte scolaire " to assist the Rector of each academic district. The job of the commission is to study the proposed establishment, site, and curricula of secondary schools. It *acts as a special section of the " Regional Administrative Conference ".*[2] The departmental working groups for the " carte scolaire " earlier bore a similar relationship to the " commissions départementales de l'équipement ". The role of the " Commission académique " was recently confirmed by decree[3] : " Investment estimates by the ' Commission académique de la carte scolaire ' shall be transmitted by the Rector to the Regional Prefect, who after consultation with the Regional Administrative Conference shall draw up the proposals for submission to the central authority ". It will however be noted that the Regional Prefect not only makes proposals to the appropriate Minister regarding public investment of a regional character but also holds certain decision-making powers. The annual programme for financing the construction of primary schools, for example, is now finalised by the Prefect[1] in the form of a list of priorities and authorised appropriations from a global amount assigned by the Minister of National Education. The gradual tendency is thus to carry out educational programmes in a regional framework.

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[1] During the preparation of the Vth Plan (IVth Plan for Educational Development), it was estimated that in 1972, 20 per cent of children would receive education in the first cycle of the CES and 20 per cent in the CEG.

[2] A regional advisory body whose duty is to provide the Regional Prefect with all the data needed for investment proposed by the regional planning authority.

[3] Published in the *Journal Officiel* of 10th December, 1964.

It should be mentioned that the " Commission académique " (and hence regional commission) is made up not only of the appropriate government officials, but of teachers' and parents' representatives and of such other authorities qualified to give advice expediting compilation of the " carte scolaire " as the " Divisional Inspector of Labour and Manpower, the Senior Government Agriculturist, and three representatives from business, industry and agriculture.

" Commission académique " must comply with the main objectives defined for educational reform[2]. The aim is to achieve " equality of opportunity for children enrolling in schools, regardless of background " and " their effective preparation for a specified trade commensurate with their real abilities ", by exerting guidance in accord with such abilities. Implementation of the reform is facilitated by other policy decisions designed to supplement the measures taken to democratise educational opportunity in secondary schools :

- increased school transport : 300,000 pupils are now transported, and facilities are systematically organised in each department on the basis of the " carte scolaire " ;
- increased canteen and boarding facilities in second-cycle establishments ;
- free school supplies : appropriations under the 1964 budget provided for the partial (about 50 per cent) free distribution of school books to the 6th and 5th in lycées and the CES's ; the CEG's did not all receive a subsidy for the purpose from municipal funds (the number of pupils in these schools who do not receive supplies free is estimated to be about 40 per cent), and in 1965 the Minister of Education planned to give the 6th and 5th of the CEG's the same advantages. It was proposed to extend the system later to the 4th and 3rd.

The problems imposed by this new redistribution scheme are of two types :

- the desire to bring schools nearer to the people partly conflicts with the need for a certain amount of concentration imposed by technical and financial considerations ; if all the course alternatives are to be provided at each educational level in one spot, this can only be done within the normal size limitations that apply for each type of institution ;
- the desired harmonization of location cannot immediately be achieved since existing facilities must be taken into account.

In organising the first cycle of secondary education such deterrents will have to be allowed for[3]. The geographical location of first-cycle schools will depend on a given population group designated as a " sector ". Sectors will be of three types :

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[1] Circular published in the *Bulletin Officiel de l'Education Nationale* of 3rd December, 1964.

[2] Decree No. 59-57 of 6th January, 1959, as amended.

[3] The following information has been taken from Circular No. 65.6, defining the second-cycle " carte scolaire " and the organisation of the first-cycle sectors and second-cycle districts.

a) *rural sectors* (population about 6,000), with a school-age population of 400 to 450 at first-cycle level ; the basic comprehensive institution will be the collège d'enseignement général (CEG) (new system) ; each class from the 6th to the 3rd will contain all the sections of the CES (described above) except for the classical section. This decision implies transformation of the present schools or scattered classes in such dispersed population areas into an autonomous CEG (new system) with a minimum of 400 pupils. This will either mean retaining the CEG on the same premises, or the complete rebuilding of the CEG. Whenever the first cycle is so organised as to comprise separate sections with different teachers, it has been estimated that the classical section cannot be made available to such rural sectors. But a student showing an aptitude for the classical course can be boarded at the nearest CES.

b) *mixed sectors* (population about 10,000), with a school-age population of about 600 at first-cycle level ; the basic comprehensive institutions will be the collège d'enseignement secondaire (CES), organised as described above. Whereas the CEG's are located in rural areas with a scattered population, the mixed sectors combine a population of at least 4,000 in a built-up area with an adjacent district of 10 to 15 km radius (allowing for the possibility of organising systematic school transportation) ; the CES's can be created from scratch or as a result of the transformation of a CEG.

c) *urban sectors* : these will be of two kinds : either the population in the sector will be around 10,000, as in the mixed sectors, meaning that the first-cycle institution will be a CES ; or else when no clear reapportionment into autonomous enrolment areas is possible, so-called " urban sectors " of no more than 30,000 inhabitants will be mapped out. In this case the sector's needs will be globally calculated, with " investment apportioned as local facilities best permit ", in the establishments of the first cycle of various kinds (CES-CEG — 1st cycle of the Lycées).

At the end of the first cycle, pupils will receive guidance advice, some will enter directly into the labour force (they may take a part-time complementary course). A second group will enrol in one of the three possible streams of short technical education (one- or two-year courses in second-cycle colleges, two-year apprenticeship and professional courses), while a third group will take the long lycée course culminating in the " baccalauréat " or technical " brevet ". The geographical area in which the last two groups will be apportioned, i.e. the " orientation unit ", will be the district. A district will embrace a minimum of 10 first-cycle sectors, with a maximum population of 200,000[1]. How will numbers entering the second cycle (at 15 or 16) be split up ? The Plan's various commissions (after allowing for spontaneous demand and foreseeable needs at various job levels) have settled upon the following figures : 25 per cent of pupils will enter the labour force, 35 per cent the long second cycle, and 40 per cent the short second cycle.

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[1] See example given in Annex III, chart 4 : " Example of school investment in a district of 60,000 inhabitants ".

Such global figures at national level will of course have to be adjusted for local structures. The restrictions imposed by the existing infrastructure and the optimal capacity of establishments are also weighty factors at this level, especially where the long and short technical industry-oriented courses are concerned. Whereas the principle consists in setting up at least one second-cycle establishment in each district capable of dealing with all pupils intending to take the long general course, and a second-cycle (short course) school of the economic and administrative type, considerable flexibility will be needed in localising the long and short (industry or business-oriented) technical courses. As it is difficult for each district to provide the entire range of vocational courses, localisation of the relevant institutions will be based on an enrolment area extending beyond a single district and covering a department, region, or even the whole country in the case of highly specialised establishments. For this reason, in scattered population areas or for specialised regional subjects, existing boarding facilities will have to be maintained and re-organised when planning the schools. This means that localisation must not only allow for present necessities but for employment conditions in the area during the next ten years. The " Commissions académiques " are so constituted that the opinions of specialists are available. The ministerial instructions also recommend reference to studies carried out preparatory to regional planning.

Measures designed to reduce inequalities in the geographical location of institutes of higher education

Unlike the situation in primary and secondary education, advice concerning the establishment of institutes of higher learning coming under the Ministry of National education is given by the " Commission du Plan ". Advice is given after consultation with the Regional Planning Committee so that the institutions will be set up in agreement with national planning and regional development policy. The same pattern is followed when higher educational establishments under other Ministries are set up.

Higher education in universities

By the time of the second school-investment plan (corresponding to the Third Equipment Plan (1958-1961 — a period when separate plans for each region were beginning to be developed), recommendations were made for a better reapportionment of university establishments. The report[1] advocated " implementation of a forceful policy to decentralise universities for the benefit of provincial towns whose economic and demographic expansion was in full swing, either by creating new faculties, increasing the number of institutes, or, in the case of science teaching, university colleges of science "[2].

Under the Third Equipment Plan, the outcome was to begin building three science faculties and seven university colleges of science in towns which so far lacked any such facilities.

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[1] General Report of the " Commission de l'Equipement Scolaire, Universitaire, Artistique et Sportif ", Vol. I, June 1958 (roneoed), Commissariat Général du Plan de Modernisation et d'Equipement.

[2] University colleges of science, colleges or institutes of arts and letters and colleges or institutes of law prepare students for the " propédeutique " examinations (first year of university study) and for certain second-cycle examinations (the " licence ").

Under the Fourth Plan (the Third School-Investment Plan) this policy was continued and strengthened in order to " curb the excessive growth of the University of Paris, and especially, by bringing higher education within easier reach of the student, seek a balanced development of higher education among social categories and geographical regions, while promoting growth at the various centres of regional economic development "[1].

Other university colleges of science have accordingly been planned, as well as colleges or institutes of arts and letters and of law. As the activities under the Third Plan (1958-1961) were begun during its final period, it is too early to evaluate the results of this policy. Moreover, as indicated in the Commission's report (under the Fourth Plan, 1962-1965) " since the future of school attendance in higher education is largely determined by current attendance at secondary level, it is idle to suppose that a geographically balanced distribution of university students can be achieved during the period in question ".

Of the 14 regions to receive university establishments under the Third and Fourth Plans, 9 have a university attendance rate under the national average. As in secondary education, it will be noted that all 9 are located in the northern half of the country[2]. The map (Annex II) showing the proposed decentralisation of universities is also indicative of the desire to create establishments in departments remote from the seat of the university (Brittany, Aquitaine, Languedoc, Provence-Côte d'Azur), and to speed up attendance as well as decentralise the Paris area by means of a " belt " of new institutions set up in the surrounding districts with low attendance rates.

In years to come the university decentralisation policy adopted under the Third and Fourth Plans will mesh with the reform of higher education, now under study. The main lines of reform are as follows : after the new " baccalauréat " degree awarded at the conclusion of the long and likewise revised secondary courses, students will be able to choose from among three types of training : university faculties, the " grandes écoles " (preceded by preparation for the entrance examinations) and the university institutes of technology (designed for the training of middle-level personnel).

Although the findings of the reform commissions in regard to the detailed procedure of access to these various types of institution were not yet known, several assumptions as to the orientation of future " baccalauréat " graduates have been put forward in preliminary work done by the School Investment Commission for the Fifth Plan (1966-1970) : 40 per cent would enter the labour force, 35 per cent would be admitted into university faculties and classes preparing for the " grandes écoles ", while 25 per cent would enrol in the university institutes of technology. These assumptions suggest that in 1972 about 630,000 students will be registered in the faculties and " grandes écoles " (as against some 370,000 in 1964-65), and 160,000[3] in the university institutes of technology (as against 30,000 in 1964-65 for equivalent types of training). The extremely rapid growth proposed for this latter category of establishment (whose present student force will be five times as great) is to parallel a reform of university faculty education. Three cycles (unlike those which now exist) will mark the curriculum in the faculties of arts and sciences : an initial two-year cycle will be used in teaching basic subjects, a second two-year cycle for specialised subjects, and a third for training research scientists[1].

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[1] General Report of the Commission, Fourth Plan, *op. cit.*, page 1.

[2] See Annex I : A few indicators of regional inequalities of opportunity in education, and Annex II : Regional location of universities and university decentralisation as proposed under the Third and Fourth Development Plans.

[3] 50,000 foreign students (as against 25,000 at present) appear in the total number of students (790,000) projected for 1972.

These innovations, in addition to the faculties and various colleges and institutes, will require a *carte scolaire* for higher education to be compiled[2]. Its preparation has been announced by the Ministry of Education, and will deal with needed student capacity in the university faculties and institutes of technology *by region*[3]. The cost of creating such university institutes will be included in the Fifth Plan (1966-1970).

The engineering schools

The engineering schools have been treated separately by the Commission du Plan. Allowing for the assumptions put forward by the Commission for the schools coming under the Ministry of National Education, and for an average growth in capacity of 30 per cent (between 1961 and 1970) where other institutions are concerned, the goal is to achieve a better regional distribution of engineering training by 1970.

TABLE 5. REGIONAL DISTRIBUTION OF ENGINEERING GRADUATES — TRAINED IN 1970

REGION	ENGINEERING GRADUATES TRAINED		
	1970		1961
	ABSOLUTE NUMBERS	PER-CENTAGE	PER-CENTAGE
Eastern France	5,800	47	42
Western France	2,800	23	12
Paris area	3,800	30	46

Source : Report on " Grandes Ecoles ", *op. cit.*, page 2.

It may be pointed out that, unlike the decentralisation of industry, such a result can be achieved by transplantation[4]. But since an engineering school, as the report dealing with the " grandes écoles " states, cannot but develop in a suitable industrial environment, the industrial character of the " Eastern region " (particularly in the context of the Common Market) logically should promote the training of more graduates than the Western region, despite the industrialisation projects for this area during the next few years.

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[1] This document, written in June, 1965, does not mention the details of the reform of higher education.

[2] Under a decree published in the Journal Officiel of 8th December, 1964, the " Direction de l'Enseignement Supérieur " became the " Direction des Enseignements Supérieurs " and assumed charge of institutes providing technological training as well as of the university faculties and " grandes écoles ".

[3] Advanced technical sections training middle-level scientific personel already exist in the technical lycées and engineering schools, thus adding to the need for a " carte scolaire " covering higher education (primary teachers trained beyond secondary level in colleges are also included in numbers of middle-level personnel to be trained in the institutes).

[4] Only two schools of aeronautical engineering are to be transferred from Paris to the Midi-Pyrénées region (Western France), where large aero-space factories are located.

Other factors promoting greater equality of opportunity in education

Institutional factors

Application of the above measures will be facilitated by the progressive installation of machinery for regional action, in which the national educational authority will share. The jurisdictional limits of the various academic districts have gradually been co-ordinated, and except for a very few departments, the administrative divisions of the Ministry of National Education now have the same boundaries as the districts for regional action[1].

Until the agencies for regional action were set up, regional planning was organised along largely vertical lines, even if contacts did exist with neighbouring local administrative authorities. The " horizontal " planning of the development projects was bound to expedite application of the educational reforms, since the aim to correct regional inequalities of school attendance logically implies that regional planning in education should dovetail with national planning.

At national level the work of the district " commissions de la carte scolaire " is co-ordinated by the National Commission. The problems caused by including education in the planning and execution of regional projects have moreover resulted in the creation or expansion of various national planning or co-ordinating agencies. A feature of the re-organised Ministry of National Education is a new " service du plan scolaire et universitaire " (attached to the General Secretariat) " responsible for planning, in conjunction with the directorates concerned, the development of schools and university institutions, including the carte scolaire and carte universitaire, and for co-ordination with the " Commissariat Général du Plan d'Equipement et de la Productivité " and the " Délégation à l'Aménagement du Territoire ".

For the past two years a task of the latter authority has thus been to submit a regional breakdown of the investment budget[2]. Since the educational goal is a " progressive equalisation of educational opportunity through a better distribution of investment ", the principle adopted in allocating investment between academic districts has been to equalise secondary-school attendance rates by 1970 on a national scale. Annual appropriations have been allocated from " operational instalments " under the Plan[3], one of whose methods for determining secondary-education goals may be described. Allowing for necessary adjustments, the method is an extremely simple one. The example given in " La Planification de l'Enseignement en France "[4] for the Toulouse academic district may again be cited. The number of pupils attending secondary school in 1962 was 92,577 ; in 1970 the number of children between 11 and 17 will be 214,117 ; if the attendance goal between now and 1970 is 70 per cent, 57,305 new places will have to be provided, or 2.85 per cent of the number throughout France. The " allocation key " for national credits assigned to the Toulouse academic district will accordingly be 2.85 per cent. The marked influence exerted by the various regional bodies on the allocation of public investment since the Fourth Plan went into effect is thus a matter of note. The progress report on the plan [describing its first three years (1962-1964) of operation] indicates that among the priority investments applied for by the regional authorities, technical instruction, adult vocational training and other forms of education ranked high on the list. These requests resulted in " adjustments to the public-investment programmes ", as materialised in the regional breakdown of the 1964 and 1965 budgets. Not all credits for national education projects are however allocated on a regional basis. Emergency programmes, the purchase of land and equipment, higher costs, studies and certain types of research are thus not covered. In 1965, the national educational authority's appropriations under the programme's regional breakdown amounted to 55.5 per cent of all investment appropriations as against 49.9 per cent in 1964 (the first year of the regional breakdown of investment appropriations).

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[1] The map of France in Annex II shows the programme areas (or districts for regional action) as well as the three main areas used in forecasting figures for 1985.

[2] See in particular : " *Régionalisation du budget d'équipement pour l'année 1965 et co-ordination des investissements publics au regard des objectifs de l'aménagement du territoire* ", Paris, Imprimerie Nationale, 1964. (Volume II, Annexes EC1 and EC3, shows the ratio of investment by regions for primary and secondary education.)

[3] See in particular : *La régionalisation du budget de l'Etat et l'Aménagement du territoire, 1966, Notes et études documentaires,* No. 3243, 7 décembre 1965 (Documentation française).

[4] *Op. cit.,* page 6, note 4.

The result, particularly at national education level, is an increasingly constant interaction between national planning area development and regional planning. Since the goal of national education is to achieve the maximum amount of dispersion of schools in order to eliminate the " distance-from-home " factor, particularly upon entry into secondary education, a regionalised plan for developing education appeared to be increasingly required as a policy of redevelopment for the whole country took shape.

Spontaneous factors

In addition to the institutional factors promoting greater equality should be mentioned other factors whose role may be defined as " spontaneous " (aside from the indirect part played by the institutional factors on their development). These are factors which are external to national education and factors relating to the demand for education.

Among the external factors should be mentioned :

— the declining active farm population : farmers and farm workers accounted for 26.7 per cent of the active population in 1954, as against 20 per cent in 1962, and by 1985 this latter ratio should be halved ;

— growth of the urban population, which went up from 59.8 per cent in 1954 to 63.9 per cent in 1962, and should attain 73 per cent in 1985 ;

— although the rural population is declining more slowly, smaller towns of 2,000 to 10,000 inhabitants gained the numbers lost by rural communities between 1954 and 1962, a trend likely to promote establishment of the comprehensive schools providing the first-cycle courses of secondary education.

Where demand factors are concerned, the statistics show that since 1950 total numbers of pupils admitted into the 6th have risen from 158,900 in 1949/50 to 46,000 in 1962/63, the rate of attendance in the 6th increasing from 28 per cent to 56.2 per cent[1]. While allowance must be made for purely demographic and institutional factors, the " spontaneous demand " factor in such a growth of attendance must be stressed, both at this and other levels. The effect of the trend has been a relative decrease in regional inequalities of opportunity at the levels so far considered (the 6th and secondary, higher and university levels).

Attendance rates in the 6th between 1954/55 and 1962/63 show the heaviest increase in regions which lagged farthest behind in 1954/55. Compared with an average national growth rate of 48 per cent, 9 regions (out of 21) marked a gain of more than 60 per cent ; of these 9.7 had an attendance rate in 1954/55 of less than 30 per cent (against the average national rate of 38 per cent).

A cursory reckoning shows that the discrepancy between the two regions at the opposite ends of the scale, which was in the order of 1:2 in 1954/55, has been brought down to 1:1.5 ; at departmental level the ratio was 1:3 and is now 1:2.3.

But a more thorough analysis of the data by programme area, and calculation of an index of dispersion such as the standard deviation from the average national attendance rate[2], indicate that the dispersion between regions decreased between 1954/55 and 1962/63 : in 1954/55 the standard deviation was 8.75 against 8.37 in 1962/63. The spontaneous growth of attendance and the measures taken to promote opportunities in secondary education (the creation of CEG's, the 1959 reform, etc.) thus appear not only to have allowed the regions with a high rate of attendance in 1954/55 to progress further, but those whose rate was low at that date to make up some of their lag behind the ones farthest ahead. The correlation co-efficient computed from attendance rates in 1954/55 and growth between 1954/55 and 1962/63 confirms this trend, its value being —0.87. A graph has been plotted to show the attendance-rate trend in the 6th[3], by adjusting the points representing regions to a straight line.

In secondary education, of the 6 regions with attendance growth rates of 50 per cent and above, 5 had a rate below 27 per cent in 1954/55 (against an average national rate of 35 per cent). The spread between the regions at the ends of the scale, which originally was 1:2.4 is down to 1:1.6 ; in the departments the previous ratio of 1:3.6 has dropped to 1:2.6. In spite of the higher degree of school attendance in secondary education for regions as a whole and the narrower range, no close approach to the national average is noted. In 1962/63 two sets of regions were located at the ends of the contracted scale. An explanation is the change in standard deviation from 7.96 in 1954/55 to 8.81 in 1962/63. The value of the correlation co-efficient (— 0.65) between the 1954/55 attendance figure and the 1954/55 — 1962/63 rates of increase is likewise far less significant than the co-efficient determined for enrolment in the 6th. But as noted above, this attendance rate is affected by far too wide a range of components, and it would be very interesting to find out whether dispersion has followed a similar trend in the first cycle of secondary education (from age 11/12 to age 15/16). Since dispersion of attendance in relation to the national average has decreased in the case of the 6th, it might thus usefully be ascertained whether the process has so far had an effect at the first-cycle level of secondary education. The trend in secondary-school attendance has been graphically represented in Annex IV (points representing regions adjusted to a straight line).

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[1] Informations statistiques, No. 58, April, 1964 and Annex I.

[2] See table, Annex I.

[3] Graph I, Annex IV.

In university higher education, the national attendance rate rose from 4.3 per cent to 7.3 per cent. But the increase appears to be unevenly distributed among regions. The 11 regions (out of a total of 21) whose attendance rates have gone up more than 100 per cent thus include three previously over the national average (4.3) in 1954/55, whereas three others well behind the average (with an attendance rate ranging from 2.4 to 2.6 per cent) are not among the 11 regions marking the mentioned gain. In aggregate the regions in the South, which were already somewhat ahead in 1954/55, have either maintained or increased their advance. The degree of spread at the ends of the scale has accordingly little changed (1:3) while the standard deviation has gone up from 1.34 to 2.33, which means that dispersion around the national average has become greater. The trend can be checked by computing a correlation co-efficient. There is no evidence of correlation between the 1954/55 rates of attendance and increases from this date until 1962/63 (co-efficient : — 0.10). The points representing regions in Graph 3 (Annex IV) are so scattered that a line adjusted to the data would have no significance. It is interesting to note that the attendance rate (age 20 to 24) in the Paris area increased very little during the period (0.3 per cent). In 1954/55 it had the highest rate of university attendance, while in 1961/62 it ranked seventh, with a rate of 7.9 per cent against a national average of 7.3 per cent[1]. This low rate of growth for the Paris area cannot altogether be explained : the statistics compiled at the time of registration may be responsible ; a lesser percentage of " baccalauréat " holders in the Paris area may register in faculties owing to the greater number of non-university institutions providing technological education ; other possible reasons are job opportunities open to " baccalauréat " holders, or the indirect impact of attendance figures for the " collèges d'enseignement général " during the first years of general secondary education[2].

These lines were written before the publication of the General Report of the Commission on School, University and Sporting Facilities under the Fifth Plan.

The tendencies described above have been confirmed and even strengthened. The Commission has endeavoured to bring its forecasts into line with the Localization and Department planning (aménagement du territoire) which, in the case of higher education, meant minimising the attraction of Paris and developing " Faculties " in the Provinces, particularly in the counter-balancing capitals[1], or on the periphery of the Paris region.

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[1] It may be noted that during this same period registrations at the University of Paris (in faculties only) showed a gain of 17,332 students (from 64,288 in 1954/55 to 81,617 in 1961/62). If it is assumed that students coming from the Paris area are registered in faculties of the University of Paris, it will be seen that the growth in numbers (1,304) between the reference dates accounts for only 7.5 per cent of the total growth (in 1961/62, 12.5 per cent of students at the University of Paris came from outside France). Stricter control of registrations at the University of Paris, the assignment of foreign students to provincial universities, and initial measures of university decentralisation (reduction of the number of departments making up the Academy of Paris and the building of new universities around Paris) have reduced the percentage of students enrolled at the University of Paris, in relation to the total number of registered students in France, from 42.7 per cent in 1954/55 to 33.3 per cent in 1961/62. (*Informations statistiques*, No. 53/54, Nov.-Dec. 1963.)

[2] See Table 1, page 255.

This attempt to decentralise the universities should reduce regional disparities in the number of students by setting up new establishments and enabling as many students as possible to attend the university serving their own region[2].

The first and second cycles of higher education in the Faculties have been largely decentralised. As the problems of student accommodation are almost similar to those encountered in secondary education, particular attention has been paid to the specific regional situation in each of the 23 Academic regions and the same will apply to the Instituts Universitaires de Technologie (University Institutes of Technology).

On the other hand the third cycle of university education, devoted to research, a selective policy has been adopted in choosing a centre to install heavy research equipment (mainly Paris and the counter-balancing capitals) and in specialising each centre.

As will be seen from Annex V the concentration of heavy research equipment in the counter-balancing capitals in no way conflicts with the policy of decentralising higher education in order to even out regional disparities in the number of students. This is reflected in the plans to improve the ratio of matriculations to local students in each Academic region.

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[1] The counter-balancing capitals, of which there are eight, are urban concentrations scheduled for priority development with a view to curbing the expansion of the Paris region.

[2] For example, in Paris the ratio of matriculations to students from the Paris region should fall from 1.37 in 1963-64 to 1.17 in 1972-73. The Commission has recognised that it is impossible to make the number of students from a given Academic region coincide exactly with the number of matriculations at the universities serving the region (see Annex V).

Annex I

SOME INDICATORS OF REGIONAL INEQUALITIES OF OPPORTUNITY IN EDUCATION

PROGRAMME AREAS	RATE OF ENTRY INTO SECONDARY EDUCATION % 1959 (*a*)	ATTENDANCE RATE DURING FIRST YEAR OF SECONDARY EDUCATION (*b*)			ATTENDANCE RATE IN SECONDARY EDUCATION (*c*)			ATTENDANCE RATE IN UNIVERSITY HIGHER EDUCATION (*d*)		
		1954/55 %	1962/63 %	GROWTH FROM 1954/55 TO 1962/63 INDEX	1954/55 %	1962/63 %	GROWTH FROM 1954/55 TO 1962/63 INDEX	1954/55 %	1961/62 %	GROWTH FROM 1954/55 TO 1961/62 INDEX
Paris area	62.2	56.0	66.1	118	52.7	60.3	114	7.6	7.9	104
Champagne	34.1	30.6	45.9	150	29.5	41.2	140	3.1	4.9	158
Picardy	25.8	26.1	44.3	170	23.0	38.0	165	2.6	4.9	188
Upper Normandy	29.6	25.7	41.7	162	24.2	37.6	156	2.4	5.1	213
Centre	31.4	28.5	48.6	171	25.8	38.7	150	3.3	5.4	164
North	39.1	34.2	53.4	156	30.1	43.5	145	2.6	5.1	196
Lorraine	36.2	31.9	48.1	151	31.2	41.3	132	3.4	6.0	176
Alsace	30.2	27.0	47.3	175	27.4	40.1	146	4.3	7.1	165
Franche-Comté	39.8	38.2	60.1	157	35.8	52.3	146	3.3	7.0	212
Lower Normandy	30.1	26.5	47.4	179	21.8	38.8	178	2.9	5.9	203
Loire country	29.1	25.8	45.1	175	25.3	37.3	147	2.4	4.4	183
Brittany	46.2	44.9	65.4	146	34.8	49.9	143	3.2	7.1	222
Limousin	47.2	40.4	58.8	146	36.8	53.5	145	4.1	9.7	237
Auvergne	45.6	41.5	60.2	145	36.9	53.7	146	3.9	8.5	218
Poitou-Charentes	31.5	28.8	48.2	167	26.6	40.1	151	3.7	6.3	170
Aquitaine	37.4	34.5	51.6	150	34.1	50.3	148	4.6	8.3	180
Midi-Pyrénées	44.1	37.7	62.7	166	36.9	61.3	166	4.9	10.8	220
Burgundy	33.7	31.4	52.8	168	29.3	42.4	145	3.2	6.5	203
Rhône-Alps	44.8	39.8	61.3	154	37.7	54.5	146	3.8	7.8	205
Languedoc	52.2	45.2	65.4	145	41.9	61.1	146	6.2	13.3	215
Provence - Côte d'Azur - Corsica	53.7	47.4	67.7	143	45.4	61.2	135	5.0	10.1	202
All France	41.8	38.0	56.2	148	35.0	49.3	141	4.3	7.3	170

Sources : These regional-programme data have been computed as follows :

Column (*a*) from *Informations Statistiques*, No. 29-30, May-June 1961.

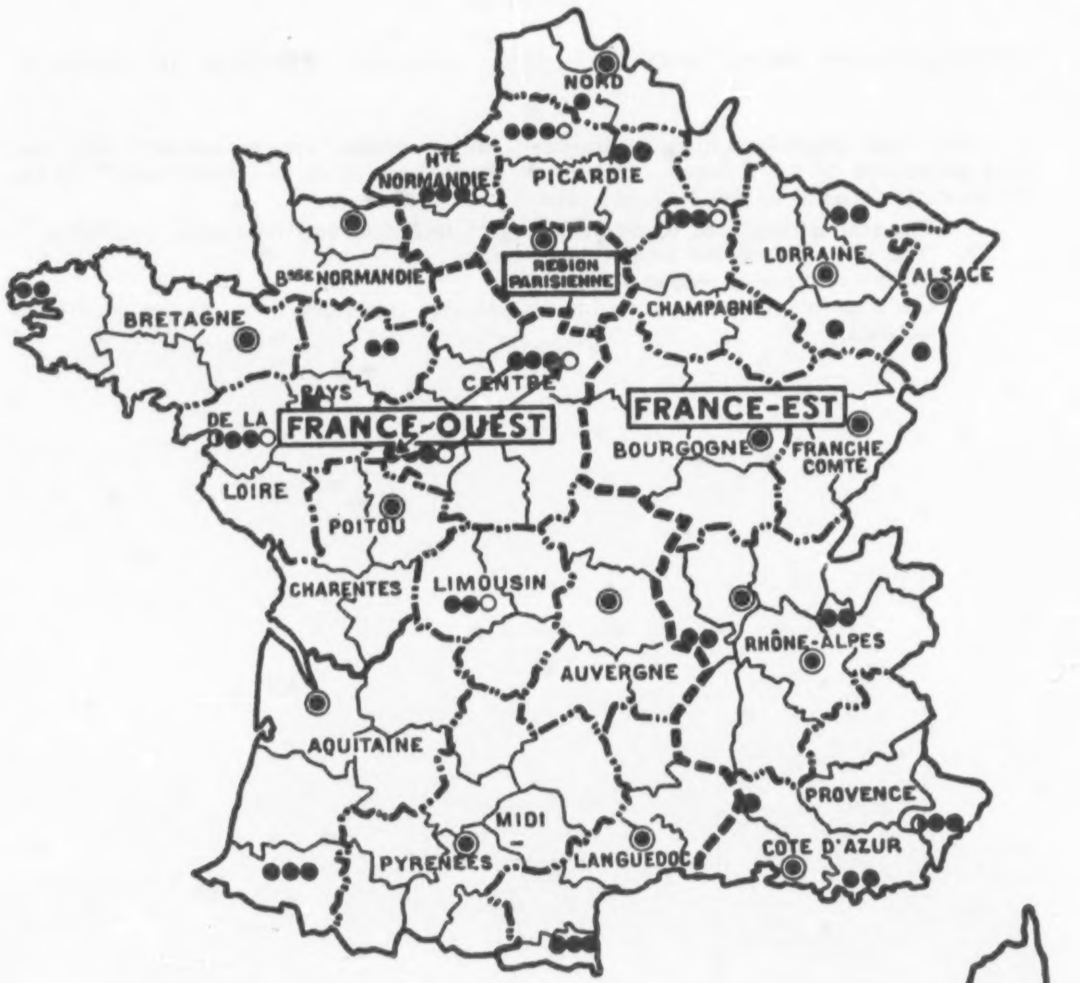
Column (*b*) from statistics supplied by the Service Central des Statistiques et de la Conjoncture (Ministry of National Education) Doc. No. 1333.

Column (*c*) from *Informations Statistiques*, No. 67, February 1965.

Column (*d*) from data supplied by the Bureau Universitaire de Statistique et de Documentations scolaires et professionnelles and by the Institut National de la Statistique et des Etudes Economiques, for 1954/55, and from statistics supplied by the Service Central des Statistiques etde la Conjoncture, Doc. No. 1142, for 1961-62.

Annex II

REGIONAL BREAKDOWN OF FRANCE SHOWING NEW UNIVERSITIES AND UNIVERSITY DECENTRALISATION AS PROJECTED BY THE THIRD AND FOURTH DEVELOPMENT PLANS


NORD
HTE NORMANDIE
PICARDIE
BSSE NORMANDIE
REGION PARISIENNE
LORRAINE
ALSACE
CHAMPAGNE
BRETAGNE
CENTRE
PAYS DE LA LOIRE
FRANCE-OUEST
FRANCE-EST
BOURGOGNE
FRANCHE COMTE
POITOU
CHARENTES
LIMOUSIN
AUVERGNE
RHÔNE-ALPES
AQUITAINE
PROVENCE
MIDI
PYRENEES
LANGUEDOC
COTE D'AZUR
CORSE
Area boundaries
Regional boundaries
"Departmental" boundaries
Universities existing in 1960.
New institutions planned : university science colleges, literary colleges or institutes, law colleges or institutes.
Planned science faculties.
Faculties and schools of medicine existing in 1963 in towns where new institutions are planned.
"Pooled" university centres (some faculties in one city, some in the other).

Annex III

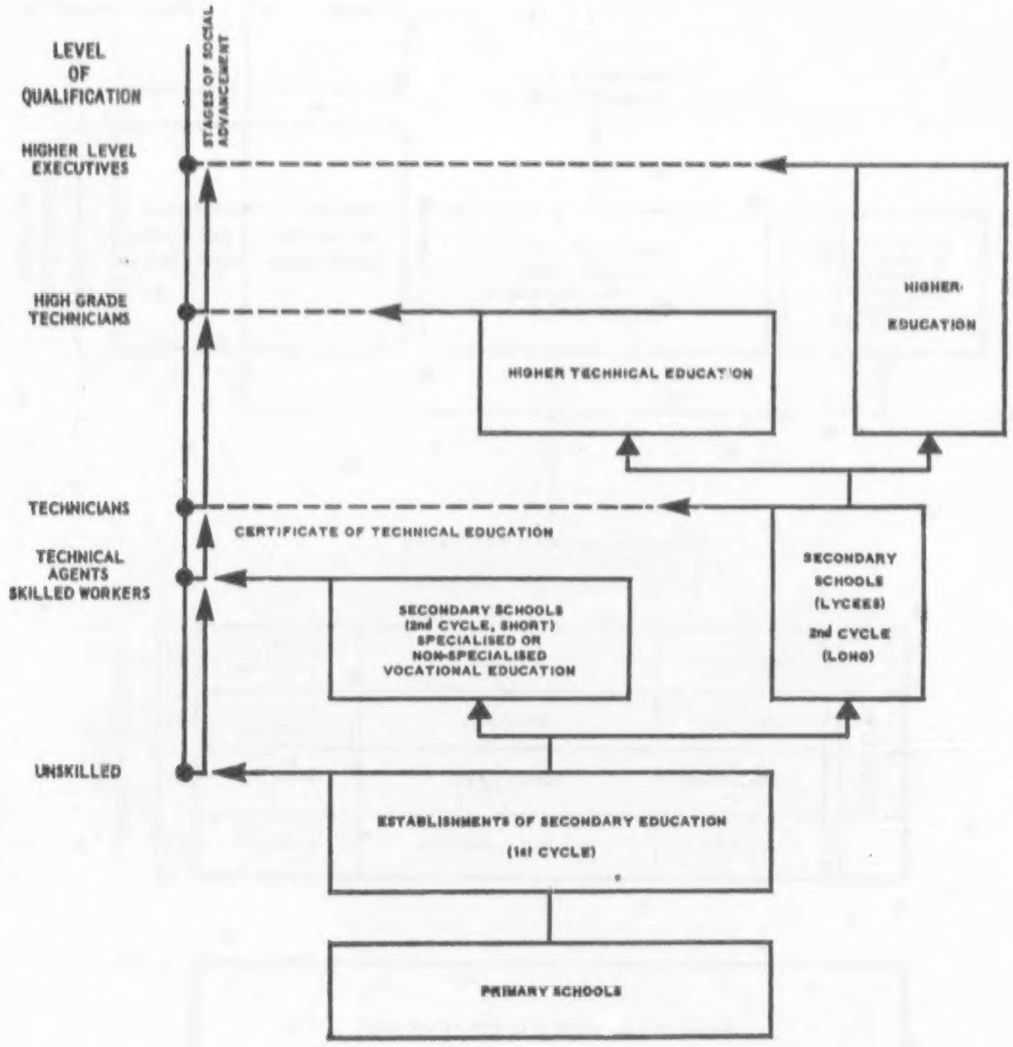
ORGANIGRAMS DEPICTING THE EDUCATIONAL REFORM IN FRANCE

The four (slightly adjusted) diagrams which follow are reproduced with the kind permission of the " Service central des Statistiques et de la Conjoncture " of the Directorates General of the National Ministry of Education.

1. General structure of institutions and of technical and vocational education.
2. The structure of the educational system.
3. Different types of secondary schools.
4. An example showing available educational resources in a district of 60,000 persons.

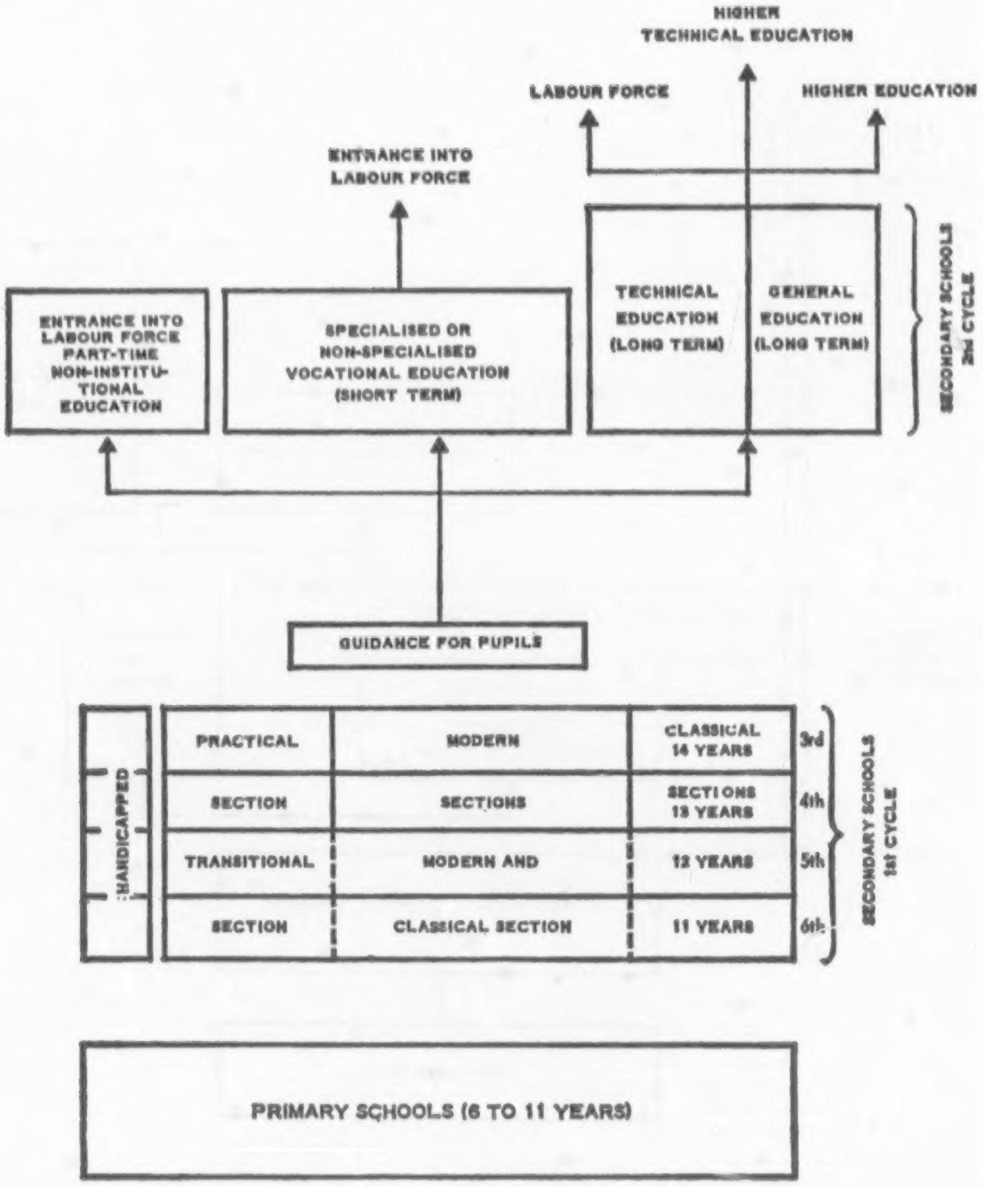
Annex III.1

GENERAL STRUCTURE OF INSTITUTIONS AND OF TECHNICAL AND VOCATIONAL EDUCATION


LEVEL OF QUALIFICATION
STAGES OF SOCIAL ADVANCEMENT
HIGHER LEVEL EXECUTIVES
HIGH GRADE TECHNICIANS
HIGHER EDUCATION
HIGHER TECHNICAL EDUCATION
TECHNICIANS
CERTIFICATE OF TECHNICAL EDUCATION
TECHNICAL AGENTS SKILLED WORKERS
SECONDARY SCHOOLS (2nd CYCLE, SHORT) SPECIALISED OR NON-SPECIALISED VOCATIONAL EDUCATION
SECONDARY SCHOOLS (LYCEES) 2nd CYCLE (LONG)
UNSKILLED
ESTABLISHMENTS OF SECONDARY EDUCATION (1st CYCLE)
PRIMARY SCHOOLS

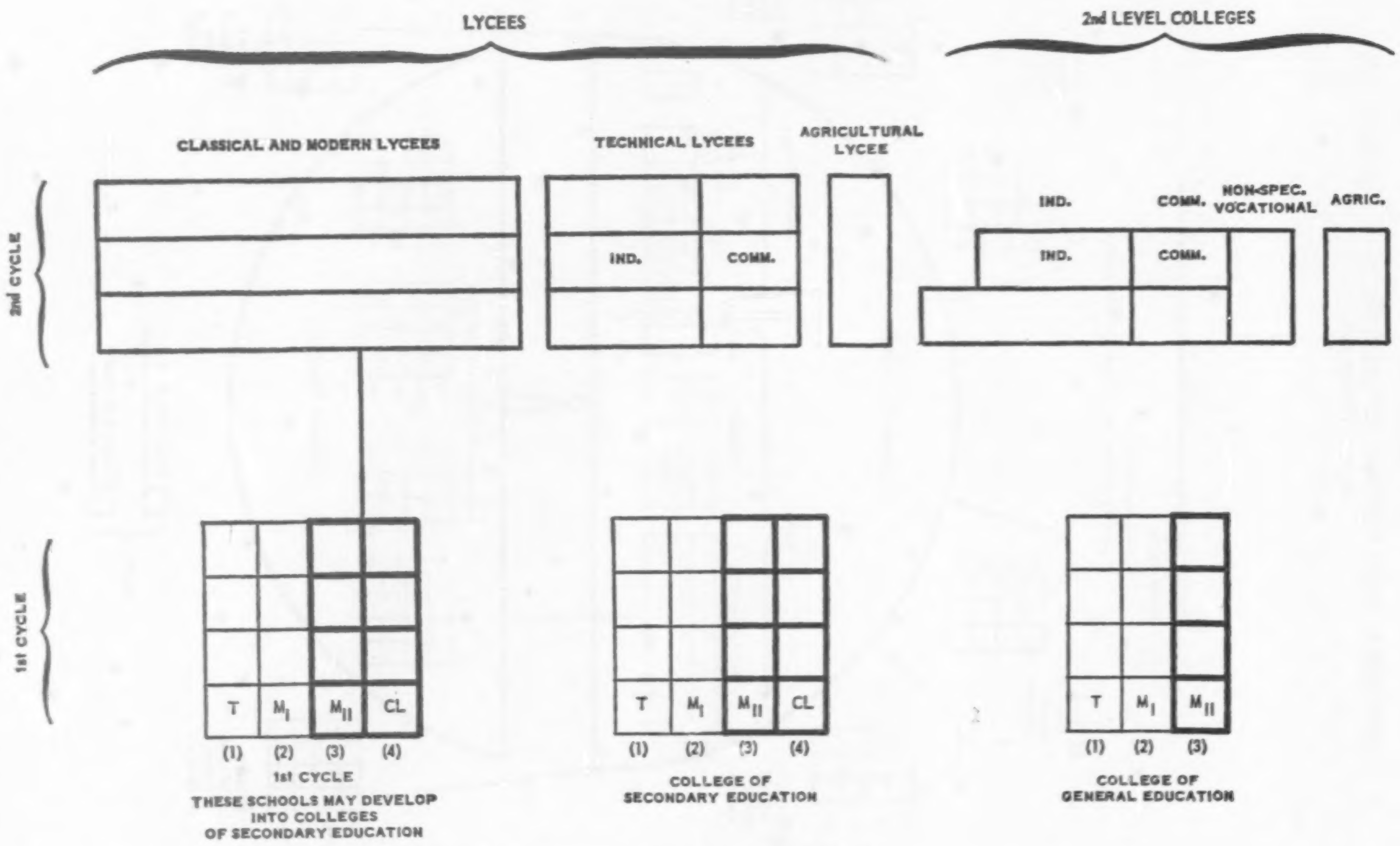
Annex III.2

STRUCTURE OF THE EDUCATIONAL SYSTEM


HIGHER TECHNICAL EDUCATION
LABOUR FORCE
HIGHER EDUCATION
ENTRANCE INTO LABOUR FORCE
ENTRANCE INTO LABOUR FORCE PART-TIME NON-INSTITUTIONAL EDUCATION
SPECIALISED OR NON-SPECIALISED VOCATIONAL EDUCATION (SHORT TERM)
TECHNICAL EDUCATION (LONG TERM)
GENERAL EDUCATION (LONG TERM)
SECONDARY SCHOOLS 2nd CYCLE
GUIDANCE FOR PUPILS
HANDICAPPED
PRACTICAL SECTION
TRANSITIONAL SECTION
MODERN SECTIONS
MODERN AND CLASSICAL SECTION
CLASSICAL SECTIONS
14 YEARS
13 YEARS
12 YEARS
11 YEARS
3rd
4th
5th
6th
SECONDARY SCHOOLS 1st CYCLE
PRIMARY SCHOOLS (6 TO 11 YEARS)

Annex III.3

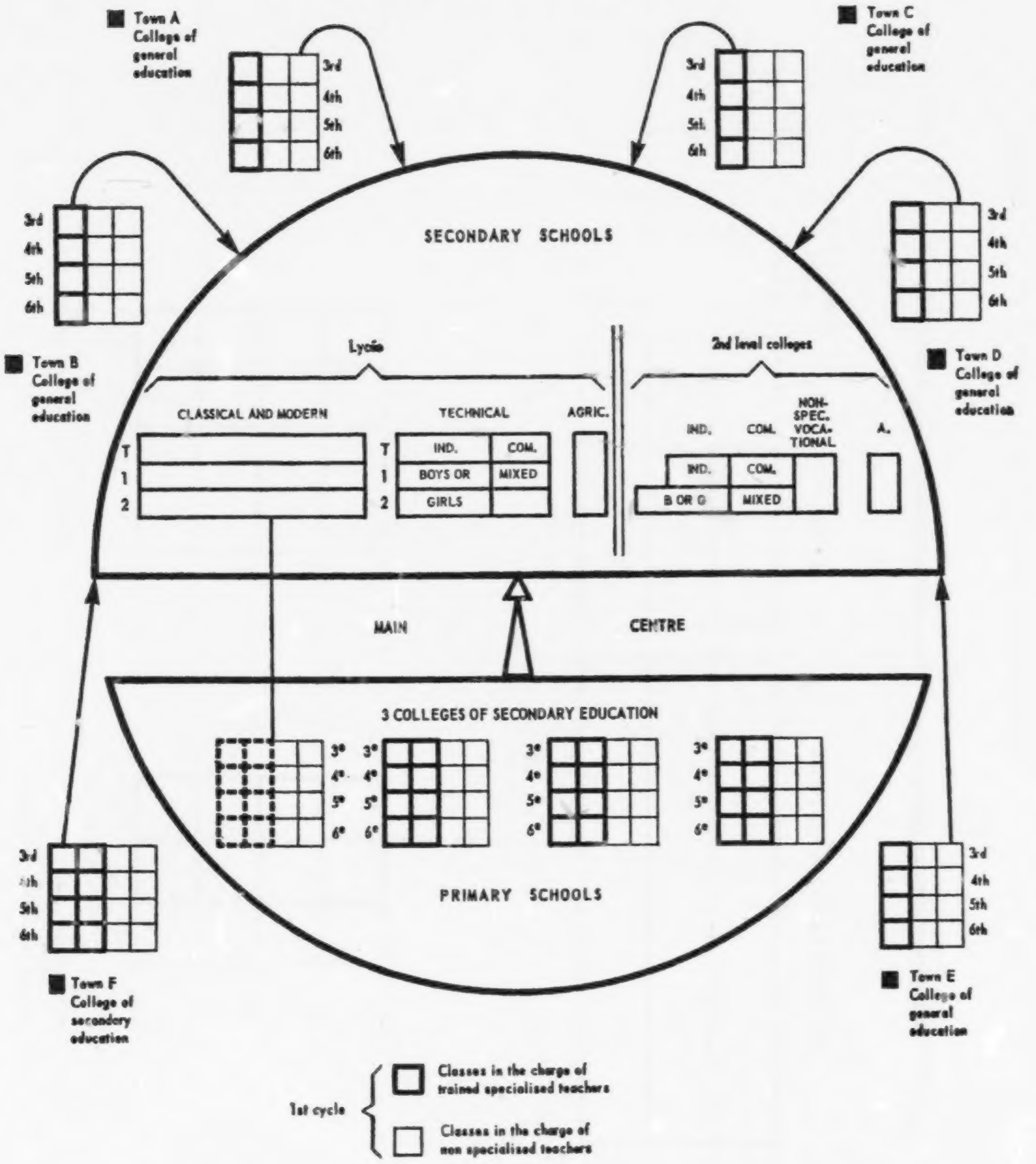
DIFFERENT TYPES OF SECONDARY SCHOOLS


LYCEES
2nd LEVEL COLLEGES
CLASSICAL AND MODERN LYCEES
TECHNICAL LYCEES
AGRICULTURAL LYCEE
IND.
COMM.
NON-SPEC. VOCATIONAL
AGRIC.
2nd CYCLE
1st CYCLE
T
M_I
M_II
CL
(1)
(2)
(3)
(4)
1st CYCLE
THESE SCHOOLS MAY DEVELOP INTO COLLEGES OF SECONDARY EDUCATION
COLLEGE OF SECONDARY EDUCATION
COLLEGE OF GENERAL EDUCATION

Notes : 1. Transition and practical terminal sections.
2. Modern Section of the CEG's.
3. Modern Section of the lycées.
4. Classical Section of the lycées.

Annex III.4

AVAILABLE EDUCATIONAL RESOURCES IN A DISTRICT OF 60,000 PERSONS



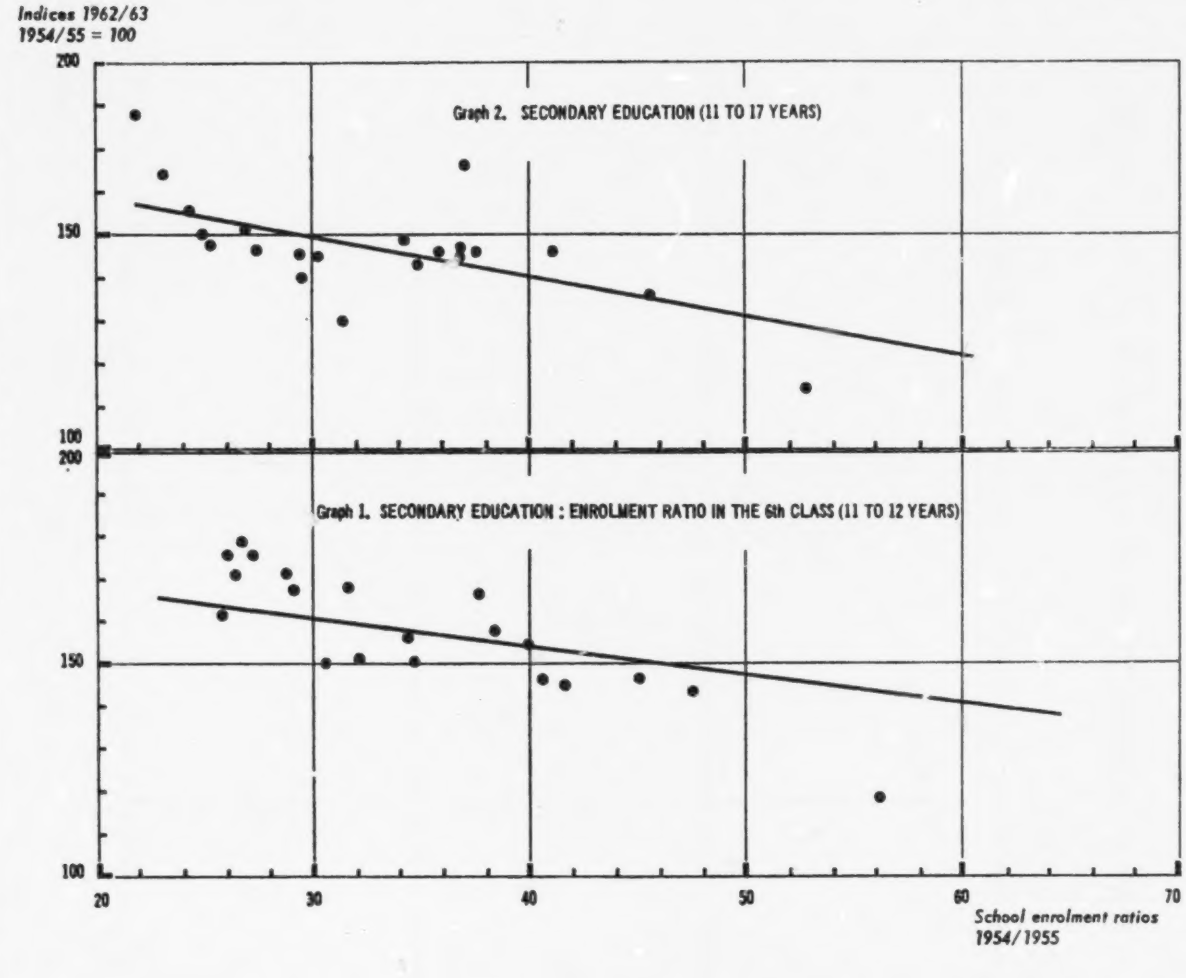
The main centre being a town of 25,000 persons, grouping 4 cantons and having in :

B a mountainous region,
F an urban agglomeration of more than 4,000 persons.

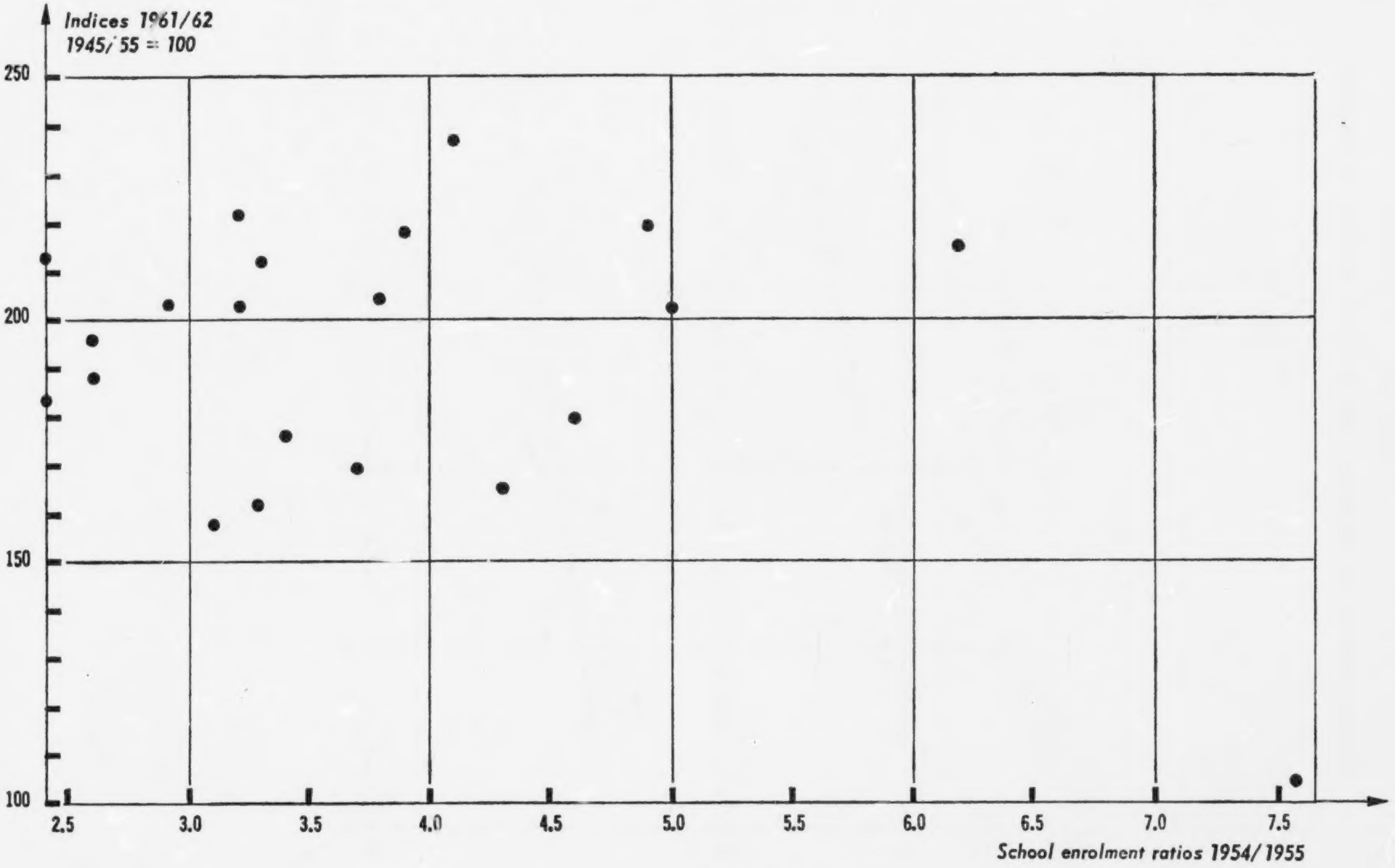
Town A College of general education
Town B College of general education
Town C College of general education
Town D College of general education
Town E College of general education
Town F College of secondary education
3rd
4th
5th
6th
SECONDARY SCHOOLS
Lycée
2nd level colleges
CLASSICAL AND MODERN
TECHNICAL
AGRIC.
T
1
2
IND.
COM.
BOYS OR
MIXED
GIRLS
NON-SPEC. VOCATIONAL
A.
B OR G
MAIN
CENTRE
3 COLLEGES OF SECONDARY EDUCATION
3°
4°
5°
6°
PRIMARY SCHOOLS
1st cycle
Classes in the charge of trained specialised teachers
Classes in the charge of non specialised teachers

Annex IV

DEVELOPMENT OF SCHOOL ENROLMENT RATIOS IN REGION



Graph 3. UNIVERSITY HIGHER EDUCATION (20 TO 24 YEARS)



Annex V

RATIO OF REGISTERED STUDENTS TO LOCAL STUDENTS

	UNIVERSITIES	CORRESPONDING REGION OF THE PROGRAMME[1]	1963/64	1972/73
Paris	Paris	Paris area	1.37	1.17
Counter-balancing capital	Aix - Marseille	Provence - Côte d'Azur - Corsica[2]	1.35	1.18
	Bordeaux	Aquitaine	1.11	1.00
	Lille	Nord	1.12	—
	Lyon	Rhône - Alpes[2]	1.28	1.19
	Nancy	Lorraine	1.34	1.13
	Nantes	Pays de la Loire	0.84	0.98
	Strasbourg	Alsace	1.01	1.03
	Toulouse	Midi - Pyrénées	1.11	1.04
New universities created round the Paris region	Amiens	Picardie	0.21	0.67
	Rouen	Haute-Normandie	0.64	0.86
	Reims	Champagne	0.46	0.85
	Orléans	Centre	0.42	0.80
Other establishments created	Limoges	Limousin	0.29	0.70
	Nice	Provence - Côte d'Azur - Corsica[2]	0.30	0.75
Other universities	Besançon	Franche-Comté	0.63	0.88
	Caen	Basse-Normandie	0.94	0.94
	Clermont-Ferrand	Auvergne	0.95	0.98
	Dijon	Bourgogne	0.91	0.96
	Grenoble	Rhône - Alpes[2]	0.87	—
	Montpellier	Languedoc	0.97	1.00
	Poitiers	Poitou - Charentes	1.01	0.95
	Rennes	Brittany	0.87	0.96

Source : General Report of the Commission de l'Equipement Scolaire, Universitaire et Sportif, Vth Plan (Table No. 23).

[1] The table of the 23 university towns may be compared with the table in Annex I and the map showing the location of the 16 universities existing in 1960.

[2] Two regions of the programme each have two universities.

X

EDUCATIONAL POLICIES FOR THE CULTURALLY DISADVANTAGED CHILD

by
Selma MUSHKIN
Council of State Governments, Washington

Economic progress in our democratic society carries with it the responsibility for assuring an opportunity for advancement to all. The paths toward such advancement are diverse and not fully defined, but clearly the primary route is education. The technological base of this economic progress, moreover, has necessitated policies for seeking out human talent and developing it.

The growing complexity of organisation and the ever-quickening pace of scientific change are creating new demands for trained brainpower. As we look ahead to the consequences of trends now underway, we see that the developing needs are for larger and larger numbers of better educated men. Unemployment among the unskilled with little schooling and shortages of trained personnel characterise the current labour market in the United States.

This is only a beginning, for present-day forces tend to converge to replace the physical energy of the unskilled by inanimate power. In an automated economy the uneducated become unemployable.

The present paper is concerned with action programmes directed toward raising the educational attainment of children from low-income groups whose educational aspirations are limited, whose capacity is impaired by the restricted cultural environment in which they find themselves, and for whom the conventional patterns of schooling have proved deficient. The action programmes set forth are drawn from the experimental programmes launched in the United States within the past decade. The word experimental is underscored because we do not yet know how to put together a package of educational and related services that will bring about equality of opportunity in our intricate society.

Despite the nation's commitment to universal education, often the schooling provided for the poor child in the poor neighbourhood has failed the child and the community. In neighbourhood after neighbourhood across the country, as indicated by a report of a panel on educational research and development, more than half of each age group fails to complete high school, and 5 per cent or fewer go on to some form of higher education. " In many schools the average measured IQ is under 85, and it drops steadily as the children grow older. Adolescents depart from these schools ill-prepared to lead satisfying, useful lives or to participate successfully in the community "[1].

Under the caption of educational policies for the culturally disadvantaged we are dealing with a number of different problems rather than a single one :

- identifying talented young people and developing them to their maximum ability ;
- increasing the capacity of all children so that they may later function with dignity and independence and contribute to society ;
- correcting blight in our civilisation which is evidenced by racial discrimination, and juvenile delinquency ;
- breaking the links that chain one generation after another to poverty.

There is no agreed-upon diagnosis of the failure of the school system or of the causes of that failure. Accordingly the prescriptions and policies differ from experimental programme to experimental programme. It would appear to me that the causes are multiple ones that reinforce one another. This view is strengthened by the fact that among differently designed programmes with different diagnoses of the ailment, each reports substantial progress toward raising the educational achievement and aspirations of the " culturally disadvantaged child ".

The school system, the teachers, the teaching facilities, the families, the community and its ways of organising governmental services, and the job market, all are causal factors. Action to alter any of these conditions has some favourable impact on the education of the culturally disadvantaged child, and to achieve the end objectives effectively an attack must be made on all of these fronts.

LEARNING BY SEEING, TOUCHING, AND DOING

Central to policies designed to remove obstacles to the educational development of the child from a culturally deprived family (as well as of any child) is an understanding of the nature of the learning process and of the special attributes of the individual child. Most disadvantaged children are relatively slow in performing intellectual tasks and have a poor attention span. A beginning has been made in understanding this slowness and in differentiating among the slow learners so that the assumption that the slow pupil is not bright does not become a self-fulfilling prophecy. The question has been raised : Are there not many slow but gifted children ? More specific research questions are being raised about the verbal potential of disadvantaged children and the kinds of stimuli to which they respond verbally. Martin Deutsch of New York Medical College, among others, is reported to be doing research on this type of question[2]. The studies that have been made appear to suggest that the culturally deprived child does not respond to oral or written stimuli but rather to seeing, touching, and doing. Frank

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[1] *Innovation and Experiment in Education ;* a progress report of the Panel on Educational Research and Development to the US Commissioner of Education, the Director of the National Science Foundation, and the Special Assistant to the President for Science and Technology, Washington, DC, US Government Printing Office, March, 1964, p. 30.

[2] Deutsch, M. : *Minority Groups and Class Status as Related to Social and Personality Factors in Scholastic Achievement.* Monograph No. 2. Ithaca, N.Y., The Society for applied Anthropology, Cornell University Press.

Reissman in *The Culturally Deprived Child* says : " ...even more important, because neglected, the positive elements in the culture and style of lower socio-economic groups should become the guidelines for new school programmes and new educational techniques for teaching these children. "

In June 1963 a conference involving some 25 experts was held on the subject of development, learning and thinking in children, under the joint sponsorship of the US Office of Education, the National Science Foundation, and the Special Assistant to the President for Science and Technology. Three basic questions were posed :

1. How can children be made to engage enthusiastically in the activity of school learning ?
2. How can we best develop the general skills that are at the core of intellectual power ?
3. How can we organize information and arrange it in such sequence that it can be easily, quickly, and strongly grasped by children ?[1]

The ideal has been formulated as a dialogue between a learner and a wise and informed tutor with the learner controlling the pace at which he gets information. In less than three months of intensive work with culturally deprived junior high school students experimental use of the dialogue form generalised in class discussion raised their reading skills and achievement scores by more than one year. Various ungraded schools have adopted the same technique, allowing each youngster to proceed at his own speed. Other experimental methods are being tried.

The June conference, after review of ongoing research, points to the finding : " We have to learn more about learning ". At this stage of research on learning we have little more than faith — faith in the potential of each child and his ability to achieve and progress.

Critically involved in learning about learning is the educational achievement test. The Kungalv Conference made clear the deficiencies of ability tests when applied to the culturally deprived child[2]. Use and misuse of these tests in the school system not only lead to wrong classification of children but also affect the attitude and performance of teachers and school administrators, and in turn the child's response and learning. As a minimum, a more discriminating application of tests is indicated. Considerable new research on testing methods is required, that is on tests of the effectiveness of experimental curricula, teaching aids, classroom techniques, student groupings, and so forth. Such tests would permit the use of sampling procedures, for the testing would be of the efficacy of different approaches to teaching and learning.

THE EXPERIMENTAL SCHOOL SYSTEM

One important programme proposal looks to a redesigning of the administrative fabric of the school system so that a programme of instruction may be tailored to the speed of learning of the individual child. Rigid administrative control over curriculum, teaching methods, classroom noise levels, and so forth, is patently not compatible with individually paced learning. Teacher initiative in the classroom requires flexibility in administrative rules, for those rules can impair the effectiveness of the teacher in adapting the teaching programme. The large size of the class can prevent the approximation under classroom conditions of the ideal of the tutorial system, and administrative duties can make inroads on teaching time.

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[1] *Innovation and Experiment in Education, op. cit.*, p. 11.

[2] Halsey, A.H., editor : *Ability and Educational Opportunity*. Kungalv, Sweden, Organization for Economic Cooperation and Development, 1961.

But administrative controls necessarily exist in any school system that seeks to achieve a programme of instruction for students that permits them to progress from one grade level to another. Even in an ungraded school there have to be some rules of the game. More research is needed on alternative methods of administration that are consistent with the objectives that the school system seeks to achieve from the culturally disadvantaged child. There are other research questions on the internal organisation of the school. What types of changes should be made in school systems ? How can these changes be brought about, especially in big-city schools ?

Sociological studies are in process that view the schools as social systems, as small cultures. Recommendations are being made to introduce into the school systems of the cities a model of experimental subsystem that will permit the development of a sequential educational programme from a pre-school programme through elementary school and high school. This educational laboratory would seek to learn by experimentation how to administer a flexible school system, what the curriculum might be, and how courses might be taught more effectively. In the context of the poverty programme (under the Economic Opportunity Act), the model subsystems are viewed as part of a larger community action programme calling for a coordination of education, child welfare, housing, recreation, public health, and other programmes. While such a model educational programme necessarily looks toward progressive results as children in the laboratory schools move from grade level to grade level, or achievement level to achievement level, a certain amount of experimentation would be introduced simultaneously at all grades.

Funds under the poverty programme are available for such projects. In addition, under the Elementary and Secondary Education Act now before the Congress, grants would be made to local educational agencies to enable them to meet the educational needs of school districts that have high concentrations of children from poor families. In these school districts the grant would help finance special educational services, including such services as educational radio and television, mobile educational services, remedial courses, pre-school or after-school programmes, and additional instructional personnel, equipment, and facilities. A national grant of $1 billion is proposed for the initial year of operation. Local educational agencies in a given county will be eligible for payments equal to one-half the average per pupil expenditure in the state, multiplied by the number of children in that county living in families having an annual income of less than $ 2,000 per year.

Supplementary educational centres and services are also proposed under the Elementary and Secondary Education Act, with an initial appropriation of $ 100 million to be allocated as a minimum uniform sum of $ 200,000 for each state, and the remainder in proportion to (*a*) the number of children 5 to 17 years of age in the state, and (*b*) the state's total population. The federal grants will be made to the centres so that they may establish and coordinate programmes for supplementary educational services.

These proposals permit a reorganisation of the school system and particularly the addition of pre-school programmes for children three and four years of age. To a great extent, mental alertness and the ability to handle abstractions depend upon a diversity of experience in the environment of early childhood. Preprimary schooling probably holds the key to a reversal of the effects of a starved environment by using the school as a means to achieve the required diversity. Research studies point to the finding that culturally disadvantaged children have only 1 chance in 1,000 to acquire effective learning habits without the benefit of special orientation through pre-school experience. While a sizeable increase in funds for pre-school programmes has been requested by the Administration and a " head start " programme is planned for children scheduled to begin school next year (autumn 1965), the size of the effort falls dismally short of that required. The task is made more difficult by the deficiencies in kindergartens throughout the nation. Half the school districts of the country have no kindergarten classes for their five-year-olds.

THE MIND THAT GUIDES

The attitude of the teacher toward the slow learner, the non-verbal, culturally deprived child has been a major factor in the failure of the school system. Teacher training and retraining, accordingly, is another important ingredient of an action programme. The Doolittle project initiated in Chicago in 1959, for example, began with a group of seven teachers, one from each grade from the kindergarten through the sixth grade. Intensive training work was done with these teachers, including work on curriculum, classroom climate, instructional materials, behaviour problems, and teacher-parental relations. Teachers are encouraged to accept each child at his own level of achievement in each curriculum area and to take him as far as he is able to go. The report of gains from this project suggest marked improvement in the attitude of teachers toward the pupils and their parents, stimulation of teacher interest in the quality of instruction, and greater coordination of the instructional programme as a result of teamwork on the part of the experimental teachers.

We have not yet found an answer to the general question : How should teachers be recruited, trained, and retrained ? Many steps are being taken to improve the quality of teaching staffs. Among them are the following :

— Teacher-training institutions are being broadened into liberal arts colleges ;

— Teachers' salaries are rising much faster than the salaries of other public employees, and the pay of wage and salary workers in private industry ;

— Institutes and workshops are being set up to retrain teachers and to help them use new curricula, new text books, and new teaching aids ;

— Bonuses in the form of higher salaries are being paid to teachers with advanced educational qualifications and in a few places to those who have demonstrated outstanding teaching skill ;

— Increasing emphasis is being placed on course content and teaching methods appropriate to particular subject areas.

Several new approaches to teacher training are being urged. For example, films to teach teachers, much as closed-circuit television is employed in the training of physicians, permit demonstration under classroom conditions of the teaching of a particular course of instruction, and of special teaching problems such as work with the slow learner. Differences in classroom responses can be illustrated for various teaching methods such as lectures, team teaching, or work with small groups. Establishment of centres for curriculum development and teacher training is proposed. These centres combine the talents and resources of teacher-training institutions, of academic faculties of a university, of public schools, and of institutions devoted to educational research and development. A broadened range of professional competence is being directed toward the problems of elementary and secondary schooling. Teachers in training participate in the process of curriculum development, and new ideas are tested in the classroom.

The legislation now before the Congress provides for the financing of regional educational laboratories that will train teachers and improve curricula. Each of the centres will engage in the spectrum of educational research and development activities, including basic research, development of educational procedures and materials, field testing and demonstration, as well as dissemination of findings[1].

Pilot research and development centres have been established at four universities, Pittsburgh, Oregon, Wisconsin, and Harvard. At the University of Pittsburgh, where the first of these centres was established, courses of study have been tailored to the ability of the individual learner and new devices have been developed to motivate pre-school children to read. The new legislation seeks to meet more adequately the needs of the 26,000 school districts in the United States.

Improvement in teaching skills and a rekindling of the zeal of the teacher are of primary importance in raising the quality of education for all children. But it is generally accepted that the teacher of the culturally deprived child needs special information. The teacher must know how such youngsters acquire knowledge and how they express what they have learned. They must know how to cope with the problems of children who come to school hungry, tired, and disorderly. In one demonstration project the milkman was asked to report to the school, any children he found who had been locked out of their homes for the night ; these children were fed and put to bed at school.

Even a cursory reading of the results of the demonstration projects makes clear that the most important teacher-training device is the record of successes that has been made by teachers when they undertook to meet the challenge of raising the educational achievement levels of the culturally disadvantaged. Reporting on the work of the Higher Horizons Program in New York City, the coordinator of the programme wrote : " The teacher is the key figure in the total process. She herself must first believe in the child and in the programme ; she must be the first to catch the contagion of enthusiasm... Our programme has been successful because it has stimulated the faith of the teachers in pupils and given to the teachers the means to translate that faith into reality. "[2]

Many of the programmes for the culturally disadvantaged support the teaching with substantial " other instructional services ", including guidance counseilling, social work, psychological and other health services, and remedial and other special programme teaching. New York stands out among the cities of the nation for its higher expenditures in slum schools than in other schools. Special ancillary services of a wider variety have been introduced. Through the Early Indentification and Prevention Program, guidance counsellors, social workers, and psychologists are assigned to screen for emotional and psychological maladjustment and provide treatment. The Higher Horizons Program has as its core individual guidance, both educational and vocational, and counsellors play a role in the entire educational programme, including inservice training of teachers. The ancillary personnel drawn into the educational stream for the culturally deprived includes what the educators have come to call the " inspired amateur ". Tutorial programmes have been set up for after-school-hours assistance to the slow learner, drawing on college students, women's clubs, and even college professors to tutor small groups in the late afternoon or the evening.

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[1] Errated, November, 1965. Elementary and Secondary Education Act of 1965.

[2] Deutch, M., *op. cit.*, p. 48.

The critical reviewer of the current emphasis on ancillary personnel notes : " The prevailing method being used in the programs attempting to upgrade schools in the economically depressed neighbourhoods of our big cities is to saturate these schools with all kinds of special services. It remains to be seen whether the chief change which will result will be upgrading of children's learning or the elimination of the responsibility of the classroom teacher for the learning of each pupil.[1]

THE MATERIALS FOR DOING, SEEING, AND TOUCHING

It is perhaps in the area of teaching aids that the work for the culturally deprived child will make its greatest contributions to a general elevation of educational services. The culturally deprived child comes to school with experiences different from those of other children, and he takes what he learns back to a different kind of home. The curriculum, the workbooks, the teaching materials and aids have to be tailored to meet his environmental experiences. A panel of experts in considering curriculum development for the culturally deprived child noted that a special curriculum does not mean production of watered down material. Curriculum units can be designed that are self-contained and self-demonstrating, enabling children to discover things for themselves.

In the United States, as in Europe, curriculum reform started in science and mathematics and was directed to the college-bound student in the secondary school. Newer developments in curricula have drawn on the work of the best scholars and teachers in the nation. Stimulated by the National Science Foundation and the American Association for the Advancement of Science, major programmes of curriculum revision in the early grades are now in process. The Office of Education has assisted in advancing the teaching of foreign languages. A similar project in the teaching of English is now under way in universities and demonstration centres. A reassessment also is being made with regard to music, art and the social sciences, drawing on the practitioner (the musician and the painter, for example) as well as the universities and the teacher-training institutions, to gain new and promising approaches to education in these fields.

Detection of the poverty in the classrooms of an affluent nation will help to broaden the support for enriching the teaching resources in the schools. Not only are more materials and experiences being brought into the classroom, but children are taking field trips with their classes. They are going out to see what they have little familiarity with at home or in their neighbourhood. Some of these are simple experiences : a trip on a train, a visit to the airport, a tour of a bakery or a milk-bottling plant. The cultural deprivation of the disadvantaged child can be compensated in part through the school system by providing him with materials and activities that stimulate learning by doing, seeing, and touching — inductive learning through problem solving and direct sensory experience. The use of audio-visual techniques such as charts, recordings, radio and television programmes, pictures and programmed materials helps to assure some instructional success for children with reading difficulties. Although there is a considerable range of materials available, much imaginative and inventive work remains to be done in the further development of teaching aids for the different educational levels and for different groups of children.

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[1] *Ibid.*, p. 84.

THE DISADVANTAGED PARENT

Economic barriers to continuing school beyond the compulsory age of attendance can be removed or reduced by scholarship assistance or financial aid. The Job Corps programme under the Economic Opportunity Act undertakes to meet this problem in part by providing education, work experience, and vocational training in conservation camps and residential training centres. The new work-training programme for young people 16 to 21 years of age seeks to enable them to resume or continue their education by providing full-time or part-time employment in state and local governmental agencies or nonprofit institutions — employment that is subsidized by the national government. A number of Neighborhood Youth Corps have been set up to provide summer job opportunities for 50,000 high school students from needy families.

Barriers to schooling that are attribuable to the impoverishment of the home, such as lack of books, magazines, newspapers, art, music, can be alleviated by furnishing reading materials to the students, by encouraging use of community library resources, museums and so forth, by organised school trips, by the scheduling of concerts, dramas, lectures, and by establishing mobile art exhibits, and so forth. Barriers to schooling due to health and nutritional deficiencies can be met by school-lunch, health and welfare programmes in the community, if these programmes are effectively utilized. Supplementary school-health, feeding, and welfare programmes have been adopted in some cities and could be extended under the proposed new national educational grant programme. Barriers to the doing of homework in overcrowded homes too can be overcome by special programmes of after-school supervised study, and play, and by tutoring or remedial sessions on Saturday, and in afternoons or evenings. Most of the projects for the culturally disadvantaged make provision for lengthening the school day and school year in these ways.

It is far more difficult to deal with the attitudes, motivations, and expectations of the disadvantaged parent, and with the effect of the parent on the child and his schooling. Action to improve parental attitudes toward the schooling of the child has taken a variety of forms in large cities. Some of these programmes have the broad objective of gaining improved living conditions for the families through housing, welfare, education, and other community-action measures so that the cumulative spiral of poverty can be broken. Others are more directly related to the parent's role in the schooling of his child. In project after project parental education is stressed.

The Doolittle project in Chicago initiated conferences with parents on the basis of a general health examination of the children. Monthly meetings with parents are held in each of the experimental classrooms. Increasingly, pupils, parents, and teachers participate in cultural development programmes — concerts, dances, choral and instrumental performances, and Sunday trips are planned by the school for the entire family.

In Washington, DC, parents of children in project schools meet with the child's counsellor and the school social worker, usually after school or in the evening in groups of 25 or 30 parents. The Higher Horizons Program in New York City is based on the premise that desirable change in an individual child can be effected best by direct influence upon the child himself, upon the teacher, and upon the parent, and a vital part of the programme has been the development of closer relations between the home and the school. Study groups, parent education, parents' workshops, counsellor-parent interviews, and so forth are part of the school activities. In Detriot, parent-teacher conferences are held and school community agents have been appointed for the junior and senior high schools. The school-community agent is a solver of personal and neighbourhood problems, and an impartial arbiter of school-family issues.

Our grip on the problem of parental attitudes and expectations as they affect the achievements of the child in the classroom is far from firm. Studies of the aspirations of low-income parents for their child suggest that the hopes are high ; what seems to be lacking is a realisation of the requirements for educational achievement on the part of the student. Among the culturally disadvantaged in the United States there is very little of the father's desire to have his son follow in his footsteps ; in fact the father's occupation, and any pursuit closely related to it, is shunned. How does a parent motivate a child except by example ? What is the transmission mechanism, and what are possible substitutes for this mechanism ? Many parents who have few years of schooling themselves participate eargerly at the request of the school in helping their child. There are some others who do not respond to offerings of school assistance. How are these parents and their children to be reached ? This hard core question has yet to be tackled.

ORGANISING A COMMUNITY FOR ACTION

Parents unaware of the child's need for education and the potential value of education fail to provide the necessary stimulus for children. But when this failure is compounded by a neighbourhood of such parents, and combined with miserable housing and day-to-day exposure to the ravages of unemployment, crime, and disease the disadvantaged child finds the schoolroom and its demands confusing and unreal. As one teacher remarked, even the quiet of the classroom is unfamiliar.

City and metropolitan-area planning is gaining momentum in the United States. This is a new type of planning in which dynamic forces in the community are projected ahead to anticipate emerging patterns, and policies are formulated to prevent deterioration of neighbourhoods and to renew the core of the city. A discussion of many of these policy issues would take us too far afield, but we are concerned with :

— case finding through the schools ;
— defining the role of the schools in a community programme ;

— strengthening lines of responsibility for carrying out a community programme, and
— improving communication and coordination among agencies.

The school system as the " great equalizer of the conditions of man " has a vital role in the upgrading of a community. But even were this not so, we should still look to school participation in a community programme, for it is the only institution that reaches all the children, and through them the parents. Case findings is costly and frustrating when the tools for identification depend on voluntary seeking of services. Public-health workers everywhere can testify to the difficulties in encouraging people, especially those most in need of the services, to come forward to receive them. When the dangers to the community are too great to rely on voluntary action, compulsory reporting has been incorporated into health programmes. Compulsory schooling long ago was accepted as essential to the functional participation of a citizen in the affairs of government in a democratic system.

Determination of agency responsibility in an overall programme of community renewal is complex. The assignment of responsibility to schools, health centres, and relief agencies in terms of the primary mission of these agencies does not resolve the problem. A neighbourhood of disadvantaged has multiple ills that may be labelled poor health, illiteracy, slum housing, and starvation. Any one of the many social agencies, and I include the schools among them, given sufficient resources and initiative, could help to prevent and cure neighbourhood ills. The usual designation of roles in terms of programme content (for example, educational agencies carry out those programmes that have an educational content, health agencies carry out programmes with a medical content) presupposes a central or community wide plan of action and a coordinated set of policies. It assumes, furthermore, that the financing of the services permits programme balance and the right combination of services without duplication or significant gaps. The structure of social services in the United States and the division of financial responsibilities for these services among governmental units impede effective community-wide programme planning and operation.

The nation is committed to a general campaign to improve the disadvantaged neighbourhood through the poverty programme. The cost of anti-poverty measures is financed with a 90 per cent grant from the national government. Individual communities decide how to do the job, using private and public resources augmented by the new national government grant. There are strings attached to this aid that require a mobilisation of both public and private community resources, the development of programmes of scope and size sufficient to give promise of eliminating a cause or causes of poverty, the participation of the beneficiaries in the development and administration of the projects, and the coordination of the various programmes affecting persons with low incomes. Thus an important step forward is being taken.

In many places the divorce of public education from other governmental functions, through separate school boards and through special earmarked taxes levied for school purposes, hamper the finding of solutions on a community-wide basis. Educators must become convinced that education will be served better by bringing education back within the structure of general government, and that the independent school district affects the allocation of resources to education adversely rather than favourably. High poverty-tax rates, especially in large cities, are compelling some change. Pressures are building up outside the school systems for strengthening the responsibility of mayors and governors for education, and inside the school systems as a consequence of experience in carrying out experimental programmes for the disadvantaged child.

Lack of coordination among the health, education, housing and welfare programmes in providing services to individuals in the same family, and even the lack of communication among professional workers have led to experimentation with organisational devices for gaining communication or coordination. In programme after programme dealing with the neighbourhood as a factor in the education of the culturally disadvantaged child, dealing with administrative fears of dilution of agency authority and frictions among the different professional groups have been the first order of business. But ways of communication and coordination are being worked out that are at least adequate to getting on with the job.

At least in some places a beginning is being made to identify who is getting what class of public service, and to determine what each family needs. Steps are being taken to encourage, by door-to-door and family-by-family visits, the wider and more effective use of existing public services for people in the community. The " guardian angel " for each family has a singularly important role to play in leading the family as a unit to what is available through the maze of eligibility restrictions and legalisms in public programmes and is helping each family avoid exploitation and victimisation in private business dealings. There is that also vital need for identifying what is required but nonexistent. A means is needed too for informing those concerned with policy formulation about the existence of such gaps.

TOWARD LABOUR-FORCE PARTICIPATION

Success of educational programmes is judged principally by the extent to which pupils raise their achievement scores — two years' improvement in reading comprehension in a three-months period, and so forth. The actual test of the success of these programmes, however, is the extent to which the young people on completing their education find themselves equipped to live independently and satisfactorily and to function effectively in our economy. Access to an independent and satisfying life in our society is gained at present through active participation in the nation's economic affairs.

While social prestige and income level are not necessarily linked, the strength of the United States, as well as its weakness, has been the identification of social mobility with economic performance. " From office boy to corporation executive " permeates the entire social fabric, although nowadays upward mobility is more contingent than it used to be upon acquiring an education and the proficiency needed for innovation and entrepreneurship in an increasingly complex economic structure. Income without work and existence outside the stream of normal activity is demoralising to anyone — to the idle sons of the rich, the unskilled and unemployed slum-dwellers, and the American Indians supported for generations on reservations.

The school has a responsibility for providing young people with the background needed for seeking a job and finding one ; it has a responsibility for equipping them with the information that they need in order to develop their education and interest further. Work training under the poverty programme, counselling services in the schools, the special programmes of jobplacement conducted by the employment exchanges, and the job corps are all directed toward those objectives. The broader national programme of vocational education enacted in 1964 is still in its very early stages of being recast and reoriented to meet the needs of the present economy. The public programme was adopted to provide ready access to high quality vocational training or retraining " which is realistic in the light of actual or anticipated opportunities for gainful employment ". Ten per cent of the appropriations under this programme is set aside for research or pilot projects to meet the special vocational-education needs of youth, particularly those in economically depressed communities.

The schools, after a period of reassessment, will adapt vocational education so that these programmes become more realisitic in terms of developing economic opportunities. Resources will be diverted from training for agriculture to training for service trades, including governmental service. Antiquated apprenticeship and child-labour laws will, after a time, be replaced so that young people can be trained, at least part time, in industry. The success of vocational education rests ultimately on effective national economic policy that not only enlarges the stream of consumer demand year-by-year, but also offsets structural changes in the labour market. The poverty programme has begun the urgent task of filling gaps in public services and creating new employment opportunities. What has been done is very small, indeed, when contrasted with the large unmet needs. New institutional arrangements must be developed through which new public services can be provided and many new employment possibilities opened for persons in the otherwise " unemployable " groups.

SOME CONCLUDING OBSERVATIONS AND A PROPOSAL

In a " nation of immigrants " education of the culturally disadvantaged is not novel. Over the span of the nation's history the schools have altered cultural patterns and forged a people with a common purpose and common ideal. New schooling instruments were invented — the free public school, and the comprehensive high school. Higher education has been extended on a nearly universal basis through a wide range of facilities from junior college and technical institutes to post-doctoral studies in the university.

Developments of the past two decades alter the climate in which the educational institutions function and call for radical changes in these institutions. Productivity gains in agriculture have released unprecedented numbers from work on the farm. While farm output has reached an all-time peak, there are only half the number of farms there were two decades ago. As a consequence of the movement from the farm, larger numbers of persons are concentrated in metropolitan areas. The composition of central cities within these areas has changed more rapidly than ever before. Negroes from the rural South have moved into the core cities of the nation's largest metropolitan areas. In 1940, all but one-quarter of the negro population of the country lived in the South ; by 1960 one half of that population was outside the South. Illiteracy that was no barrier to farm work in the rural South was becoming the problem of New York City, Chicago, St. Louis, and Oakland, California. In the industrial regions the shape of the labour market was being transformed by new technology that made manual unskilled work redundant. Vastly increased numbers of children were becoming subject to longer periods of compulsory schooling as they moved to different state jurisdictions. The labour force requirements of industry, in cities, necessitated a lengthening of schooling, and employment practices made the high-school diploma a requirement for admission to jobs. By this combination of circumstances, the school dropout problem was created.

The schools in this same period faced the challenge of providing education for the mounting number of school age children. During the ten-year period 1953 to 1963 enrolment in the elementary and secondary schools climbed from 28.1 million to 40.2 million. Classrooms were built and teachers were recruited. In the midst of this adjustment of the school to accommodate far larger numbers, Sputnik propelled the nation and the educational community into a reassessment of the quality of education. Curricula, teaching methods, and pupils acceleration concentrated on the gifted, perhaps righting the balance of an earlier preoccupation with the average child. But with this new emphasis, our educational system was, if anything, less prepared to cope with the families who migrated to the city.

The greater complexity of urban living, structural changes in the labour market, and the diversity of cultural background of the children call for new educational innovations — innovations that draw upon the advances in the behavioural sciences and computer technology, and the strength and urgency of the civil rights movement.

The issues and questions that must be resolved are many :

1. What types of experimental programmes, and in what combination, are to be provided for the culturally disadvantaged ?
2. How are the experimental programmes to be sorted out in determining what measures can be applied more generally for vastly larger numbers of children in low-income groups ? What time period is to be set in evaluating an experiment ?
3. What are the essential components that have to be included in a broader programme for the larger numbers ?
4. What organisational arrangements are to be made for sorting out the more productive approaches from the less productive ones, and where should responsibility for this work be lodged ?
5. How great a commitment of resources is warranted in (*a*) experimental programmes and (*b*) more general programmes for the culturally disadvantaged ?
6. How are gains and costs to be measured and what is the tolerance of the " nonmeasurable " ?
7. Have the experimental programmes reached the poorest among the poor, or is there still a layer of problems to be charted and probed ?
8. Should standards for higher education be lowered for the culturally disadvantaged to provide a greater opportunity for later job advancement, or should the education period be lengthened by remedial training between high school graduation and university admission ?

The chipping away at the deficiencies in public services in our big cities through demonstration projects has its advocates and its critics. The present programmes with their restricted groups of beneficiaries and limited range of services undoubtedly are more costly per family aided than a more massive programme would be. The choices, however, are not between a comprehensive programme for all low-income families and small experimental projects. There is a range (as yet unidentified) of services that in proper combination for some groups (yet to be defined) in a city's population can yield a very profitable return in added productive capacity within a politically feasible time schedule. We may not have the research tools to find a precise answer to the three-pronged question of range of services, segment of population, and time period, but essentially the nature of the question is not very different from that posed by economic growth in the underdeveloped areas of the world. If anything, the task of raising the capacities to live and work in a large city within an affluent nation is a less taxing one than that of formulating educational policies for the less developed regions of the world.

The combination of educational services and the changes in school structure, teacher training, curriculum, teaching aids and textbooks, supplementary school personnel, and parent-school relations required to improve the disadvantaged child's motivation to learn and his achievement have not been precisely defined, and additional research is clearly needed. Pre-school education, to mention one structural addition to the school system, on the record made to date has a good chance of favourably effecting long-range educational performance. A fairly rapid introduction of pre-school services into more school systems is called for, and along with it, parental participation. The gains made through pre-schooling, however, will tend to be eroded by family and neighbourhood conditions and by poor schooling in the primary grades unless complementary programmes, such as those mentioned earlier in this paper, are adopted.

The research and projects for the disadvantaged child offer promise of contributing to general educational theory and practices, and to broadening financial support of education. The emphasis being placed on the pacing of instruction in accord with the learning speed of the individual child has a general applicability, as has the intensification of work on curricula in the arts, music and social sciences, and on teaching aids, better textbooks and library facilities. Research and demonstrations of improvements on the various facets of schooling of children of poor families will provide considerable information needed for more intelligent choices by the educator and the public. And lastly, the disadvantaged child has provided a " handle " for the assistance by the national government in the financing of elementary and secondary education in the United States.

Despite the sum of perhaps 70 billion that is spent for education each year by Member Nations of the Organisation for Economic Cooperation and Development, resources devoted to the basic problem of learning are very meagre. The efficiency of the educational investment could be greatly increased and the quality of the product improved if we could expand our scientific understanding of the nature of learning.

The best of our talent must be encouraged to explore the processes of learning. In other areas, with sufficient support and intensity of research effort, major breakthroughs have been made. The size of the present commitment of resources to education and the large unmet needs for further expansion of the educational establishment suggest that immediate steps be taken to launch a new major research undertaking on the fundamental material of education — the functioning of the human brain. Many disciplines and professional competencies must be drawn together to carry out the work. With sufficient support and encouragement a breakthrough may open up new educational paths.

A proposal accordingly is made for the creation of an Institute of Learning, under the auspices of the Committee for Scientific and Technical Personnel of the OECD which would have the following responsibilities :

1. Reviewing and assessing the state of knowledge about learning in each of the Member Nations ;
2. Formulating a series of research questions and projects in the field of learning ;
3. Stimulating multi-disciplinary research on the learning process in the universities and related institutions within Member Nations ;
4. Fostering inter-country exchanges of scholars when by such exchanges experts from various fields can be regrouped more effectively ;
5. Providing machinery for coordination of research and for division of the work, where appropriate ;
6. Undertaking intra-mural research on learning (if the procedures for such research can be developed within the framework of the OECD).

The staffing of the Institute with highly competent scientists is critical to the success of such an adventure. This will require money for salaries, equipment and facilities. Methods of financing such an Institute and extra-mural research would have to be developed.

As a first step, a conference of scientists from the Member Nations should be called and high-level staff provided to do the spadework required for the success of such a conference.

Clearly the proposal could be broadened to include the process of teaching compatible with the state of knowledge about learning. But the critical problem is a better understanding of the ways people acquire information and abstract reasoning ability.

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XI

UNEQUAL SOCIAL PARTICIPATION IN EDUCATION : THE OECD PROGRAMME AND IMPLICATIONS FOR POLICY

by

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CURRENT OECD PROGRAMMES AND THE DEVELOPMENT OF OBJECTIVES

A common general policy direction is emerging in the development and planning of education in OECD countries, which obviates the need to impose an abstract theory on their efforts and, instead, suggests a practical framework to facilitate the joint examination of the policy problems involved. This single, overall direction is the movement of the educational systems of these countries to a position of " openness ", a release of the major barriers to their expansion. Of course Member countries of the OECD are at different stages in their articulation and fulfilment of this policy, but the general move towards raising the flood-gates of their educational systems is the unmistakable response to the other fundamental policies which they share. It is a response to the need for highly qualified manpower stimulated by growing economies, to the economic objective of optimal development of resources — specifically here, human resources — and to the social-political demand which moves hand-in-hand with these economic transformations for an opened, broad participation in the higher levels of education by all segments of the population. The general problem of educational planning is to facilitate the historic development of the educational systems of these countries in this direction.

The planning process should include a more precise statement of this direction, in terms of the basic educational objectives it contains. In each country, as such objectives become more explicit, their structure of interrelationships is revealed and their consequences can be considered for the development of planning targets. Taken as a whole, OECD country efforts also are developing, despite obvious differences in historical position and cultural emphasis, a pattern of basic educational objectives, generally shared and arranged in an apparent structure of priority.

Interwoven as they are with the societies they serve, educational systems rest on objectives which may be identical with major goals of the society. However, the planning process, as it works out technical targets and resource strategies for developing the educational system, exposes the consequences of and, often, important conflicts within the structure of basic goals. Then a " feed-back ", confronting these goals, becomes a product of the planning process important beyond the strict field of the educational system. As such a process becomes a reality for education, the actual range of these underlying goals will be recognised and, furthermore, as much as possible their characteristics will be illuminated.

It is not surprising that this crucial step in the planning process, the systematic statement of goals, was not attempted in any detail during the early stages of OECD programmes. This is, in fact, a most difficult part of this work. It involves mastery, beyond a certain critical level, of the total range of subjects relevant to the planning of education, and, furthermore, confronts the sensitive and often unresolved areas of national policy decision and commitment related to education.

Thus, the OECD's initial programme statement of basic goals in this field was confined to an expression of its general economic goal to promote and maximize growth in the Member countries to which planned educational investment would contribute. Economic objectives formed the major basis for the initial targets developed for educational systems in the Mediterranean Regional Project[1]. In this project the refinement of the specific technique for deriving such educational targets from economic development goals has been a continuing concern. Nevertheless, the general results of this exercise have indicated clearly that the modern economies projected for these countries will require a vast expansion in their educational systems, and the current specific efforts in these countries to plan for this expansion — so large and integral a part of the social and cultural fabric of these nations — can take place only within the framework of major social and cultural objectives. However, this link between social objectives and other social factors on the one hand, and educational development programmes on the other, to which little attention was paid in this and earlier OECD programmes, has become very prominent in the evolution of the Educational Investment and Planning Programme (EIP)[2], as is evidenced by papers contributed to this book, by comprehensive country policy planning now coming under review in this Programme, and by a growing series of inter-country OECD projects for educational development policy.

Furthermore, development of basic goals in this field on the international level is not inconsistent with the actual course of events within individual countries. The need to radically expand and to reformulate the direction of its educational system may be felt by a nation, and be acted on, before it is able to define fully the complex social-economic forces which demand this transformation. It can be that in the process of planning to implement these changes in the educational system, its underlying social and economic functioning and purposes will become, gradually, more sharply revealed.

However, these tendencies within the countries may now be reflected back onto the international scene through the shared experience of OECD programmes, and from them there does emerge a shared pattern of goals, perhaps more definitive and clear than would be possible for any single country. Clearly, one set of objectives has come into view that can be grouped under a single heading : the democratization or equalization of educational participation among major demographic and social groups. This may be the key concept for objectives in educational development because of its functional linkage with both the social and the economic ; it deeply involves both :

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[1] Portugal, Spain, Italy, Yugoslavia, Greece and Turkey participated in the MRP.

[2] EIP Programme organises the remaining sixteen OECD countries not in the MRP. Italy now also participates as a member of the EIP group.

First, since research findings demonstrate that people capable of higher education are widely distributed throughout the population, corresponding educational development is relevant to the optimum development of a key economic resource potential — the human resource. Second, an examination of the current targets for educational development purely on the grounds of economic requirements indicates that in most of the OECD countries little of the trained manpower resulting from high levels of participation in education need to be wasted for lack of complementary resources. In fact, the education targets so far derived from economic need can only be met by substantial progress toward equalisation in social participation. Thus, largely economic goals for educational development lead very quickly to a re-statement and development of these goals in terms of a major social objective.

Of course, a coordination of this set of objectives is scarcely begun in this statement, nor does this exhaust the increasingly wide range of economic and social objectives recognized for educational development. A planning process for educational development is required to work out the implications of, and the inter-relationships among, these objectives, but this has not been the task here. Rather, this discussion, and the papers of this book, rest on the recognition that among these objectives the democratisation of educational participation has moved to a central position, and, therefore, of itself demands new and deeper exploration. It must be more precisely defined and described, in the context both of the development and functioning of educational systems and of the dynamics of the social systems.

PLANNING TECHNIQUE AND OBJECTIVES IN THE OECD PROGRAMME

Furthermore, this exploration forms part of on-going efforts to develop an integrated planning technique in OECD educational programmes. When manpower needs deduced from economic development objectives have been used as the principal basis for calculating targets for educational development — as was the case in the first stage of the Mediterranean Regional Project — and the social factors taken less specifically into account, this approach has sometimes been viewed as an " economic " approach. But such a bald distinction between economic and social " methods " is recognized as over-simplified and can be misleading. The elements influencing peoples' " social " demand for education include economic factors (income levels, employment structure) as well as social factors (family cultural environment, motivation, prestige of certain types of education, etc.) and public policy (the supply of education itself). Manpower requirements, on the other hand, reflect social and institutional developments, such as the increased demand for certain services (health services, leisure industries and mass communications, scientific research, etc.). " Economic " or " social " demand for education are better regarded as complementary elements whose position in a single planning process must depend on the data and on the tools of analysis available within the time and other limitations of any practical planning exercise. The current position of OECD country programmes with respect to the role of "Manpower Forecasting in Educational Planning", has been discussed in a group of papers reviewing the MRP and EIP experience in this area recently published under preparation for publication under this title.

Techniques or methodologies employed in educational planning may themselves be expected to express underlying social objectives, but more often are an incomplete expression of such objectives. For example, in some countries, educational planning has at times involved projections of " social demand ", i.e. the demand for education resulting from individual decisions. The forecasting techniques used are either general extrapolations of the past trend of school numbers, or school attendance rates by age groups (France), or an investigation of the factors which have influenced individual demand (Netherlands, Sweden) : geographic factors, parents' profession, education of attitudes, family income, religion, etc. However, these techniques of forecasting are predictive only in the case of a relatively " frozen " position between the determining factors and the future demand for education, and, therefore, exclude those social objectives which imply educational change.

This is, therefore, recognized not as a complete " approach " — sometimes called the " social demand " approach — even when it aims to express the net results of the social and economic factors which determine peoples' demand for education. Rather it should be seen as a limited forecasting technique, as a necessary step in the larger planning process. A complete planning process treats the factors connected with the various levels of educational participation as possible policy instruments for modifying the educational system, in order to change the character of this participation. Thus, a distinction has to be made between what is a mere technique of forecasting and a process of deliberate planning within a structure of social objectives and social data.

Various measures toward equalising educational opportunity have played a part in the recent expansion of OECD country educational systems. Inquiries into problems like school location and family motivations have led to such general measures as wider geographical distribution of educational facilities, and scholarship schemes. However, the persistence of broad inequalities shows the need to develop and introduce much more effective measures into the planning and development process.

Such work requires a systematic programme of data-gathering in the countries concerned. A beginning towards fulfilment of this task, first called for in an earlier OECD publication in this general field[1], has been taken in the sociographic sections of the " Methods and Statistical Needs for Educational Planning ", published by OECD early this year. The data and research needs indicated throughout the papers in this present volume have, of course, been available for consideration in formulating this handbook.

The handbook, a major project involving most of the Member countries, is nevertheless seen as a preliminary step and is to be tested by country efforts to gather data according to its guidelines. This experience will be used along with other investigations, further to develop a framework for the sociographic and other data required for educational planning.

POLICY ISSUES AND IMPLICATIONS

The analysis of the causes of unequal participation in the higher levels of education, while starting from a clear statistical presentation of the existing situation in each country, must go far beyond this raw statistical data into the dynamic processes of the societies concerned.

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[1] " Ability and Educational Opportunity. " 1961. OECD.

An understanding of these processes — which is increasing though still incomplete — must enter into the policies required to meet key issues in educational development. This can be seen in a brief review of some of the policy implications of the contributions to this book and, particularly, as they are summarised by Dr. Leila Sussmann. Dr. Sussmann reports on three general issues, as they are related to equalising social participation in education :

1. the expansion of the educational system ;
2. its structural change, and
3. the reconstitution of the content and manner of education.

The *first* issue arises from the findings that educational expansion per se has not necessarily lessened differential participation between social classes. The evidence so far indicates that " the demand of the upper strata for higher education must be very nearly saturated before further expansion produces some ' levelling up ' of participation rates ". Furthermore, this " levelling up " does not automatically continue. Thus, since the need in most countries for major expansion in education is no longer questioned, the basic policy issue today is the decision to intervene with measures which assure significant improvements in social participation at all stages of this expansion.

The second and third general issues discussed in the Sussmann summary involve the kinds of measures needed to achieve this end. One kind of measure is a structural change of the school system designed to create a framework which frees the schools to provide for broader social participation. Here, it can be noted that a more favourable school structure does not in itself solve the problem of improving social participation. However, the experience is that beyond a certain critical point, expansion of social participation in the upper levels of education results in a substantial change in the actual character of the school system, even when its structure is not formally or systematically altered. However, if the social participation is to be greatly expanded, deliberate management of the change of the school structure away from traditional patterns is a virtual necessity. This would be the *second* basic policy implication of the findings in this field so far.

Beyond the provision of a favourable structure for the schools, their broadened social composition becomes meaningful only when it is accompanied by a programme to attain a high level of educational achievement. In practice this means devoting major educational resources in a search for, and an application of, measures to develop the potential educability of all social classes, and this is the *third* broad policy implication here. The general outline of these developments is already well established. New and deeper investigation into the characteristics and needs of various segments of the population as they are related to education, provide the basis for developing a whole new content, new materials and approaches to education. New and increasing understanding of the nature of the learning process, which would include its emotional and psychological elements, is a further essential ingredient in this work. One major approach being tested is early pre-school intervention into the socialisation of children to provide a necessary basis for their school participation and performance. Other efforts to formulate new educational strategies must deal with key social relationships both within the schools and between the schools and their environments.

Bringing out the potential educability of the youth of all classes involves dealing with the conditions of the family and the community and their participation. New " technologies, " communication techniques and " hardware " can be placed within the framework of such strategies. Altogether, a school system being directed toward developing the potential educability of all classes will be characterised by widespread experimentation and innovation, and by a diversification in kinds of education as the means for attaining equal educational quality and results.

These developments give rise to a further policy consequence : that is, the replacement of the principle of equal standards of education by that of " compensatory " education provided to the less fortunate sections of the population. This means a positive policy of large, extra educational resources devoted to those people handicapped by a lack of cultural resources in the home and community.

This kind of expansive transformation of school systems in turn has its financial implications. Some contributors to this book doubted particularly if it is politically feasible to expect " not merely immense spending, but spending more on the schooling of the disadvantaged than that of the advantaged ... a policy which genuine equalisation would require ". Against the pessimism of this viewpoint can be placed the fact that the social and economic developments which have made traditional educational systems inadequate to meet modern needs are very fundamental — too fundamental for the society to deny what is required to rectify such a basic inadequacy.

Redistribution of the flows of benefits through various forms of public activity, has been generally accepted and established. In the case of education, the need has appeared to take this kind of policy further than ever before, because the modern social-economy shows a decreasing tolerance for masses of people under-educated primarily because they begin life in less-favoured sectors of society. The idea of education as a social investment which should be distributed in the community contrary to the relative economic and social status and influence of its members, is startling only if this principle is projected for all other goods and benefits in society, which of course, it is not. Therefore, policies which would direct the continuing expansion of educational expenditure towards the major redress of social participation in the schools is not incompatible with an extension of existing public policies. Such a bias in the direction of educational expenditure is a *fourth* policy implication arising from current thinking in this field.

Such policy directions imply, on the whole, a great pressure on educational resources, and this circumstance in turn calls for a great increase in the effectiveness and efficiency in the use of these resources. The scientific investigation and development research directed toward *educational* effectiveness should not be separated from this objective of resource maximisation. However, this research itself requires resources commensurate with the tasks involved. The situation in education today demands a multi-sided programme of scientific investigation designed to challenge the notable obsolescence of modern school systems in terms of the numbers they provide for, their organisation and structure, the content of their educational offerings and their pedagogical, social and innovational strategies. This, then, is the fifth policy implication :

That educational development programmes which — to meet modern social and economic requirements and policy — are aimed at the enormously complex task of eradicating the major inequalities in educational participation, require a great new flow of resources to the whole constellation of supporting sciences which, even then, must be judiciously organised to bear upon the key points in this educational revolution.

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